

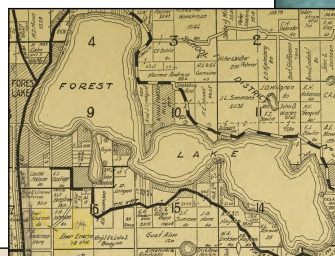


Ann Merriman
Christopher Olson



Minnesota Suburban Lakes Projects Series

Forest Lake Sonar Survey and Underwater Archaeology Project Report



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Ann Merriman, Christopher Olson, and Maritime Heritage Minnesota

Acknowledgments

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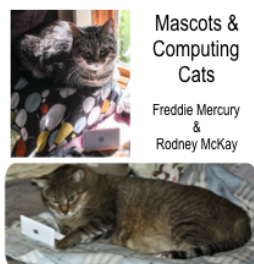
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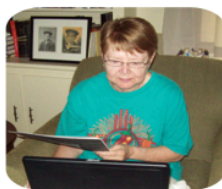
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MHM IS A 501.(c).3 NON-PROFIT CORPORATION DEDICATED TO THE DOCUMENTATION, CONSERVATION, AND PRESERVATION OF MINNESOTA'S FINITE MARITIME CULTURAL RESOURCES

“...grants have allowed a small St. Paul-based nonprofit, Maritime Heritage Minnesota (MHM), to re-establish the discipline of underwater archaeology in Minnesota. Without this support, MHM could not have conducted its groundbreaking nautical archeological and maritime historical research.”

~Steve Elliott, Former Minnesota Historical Society CEO and Director, January 2015

Introduction

Wrecks and the artifacts associated with them tell a story. Removing or otherwise disturbing artifacts, treating them as commodities that can be sold, obliterates that story. Nautical archaeological and maritime sites are finite, and are significant submerged cultural resources. Nautical, maritime, underwater, maritime terrestrial – Maritime Heritage Minnesota's (MHM) deals with all of these types of sites throughout the State of Minnesota. MHM's Mission is to document, conserve, preserve, and when necessary, excavate these finite cultural resources where the welfare of the artifact is paramount. MHM is concerned with protecting our underwater and maritime sites – our shared Maritime History – for their own benefit in order for all Minnesotans to gain the knowledge that can be obtained through their study. MHM's study of wrecks does not include the removal of artifacts or damaging the sites in any way. MHM does not raise wrecks or 'hunt' for 'treasure'. Submerged archaeological sites in Minnesota are subject to the same State statutes as terrestrial sites: the Minnesota Field Archaeology Act (1963), Minnesota Historic Sites Act (1965), the Minnesota Historic District Act (1971), and the Minnesota Private Cemeteries Act (1976) if human remains are associated with a submerged site. Further, the case of *State v. Bollenbach* (1954) and the Federal Abandoned Shipwrecks Act of 1987 provide additional jurisdictional considerations when determining State oversight and "ownership" of resources defined by law as archaeological sites (Marken, Ollendorf, Nunnally, and Anfinson 1997, 3-4). Therefore, just like terrestrial archaeologists working for the State or with contract firms, underwater archaeologists are required to have the necessary education, appropriate credentials, and hold valid licenses from the Office of the State Archaeologist (OSA).

Research Design

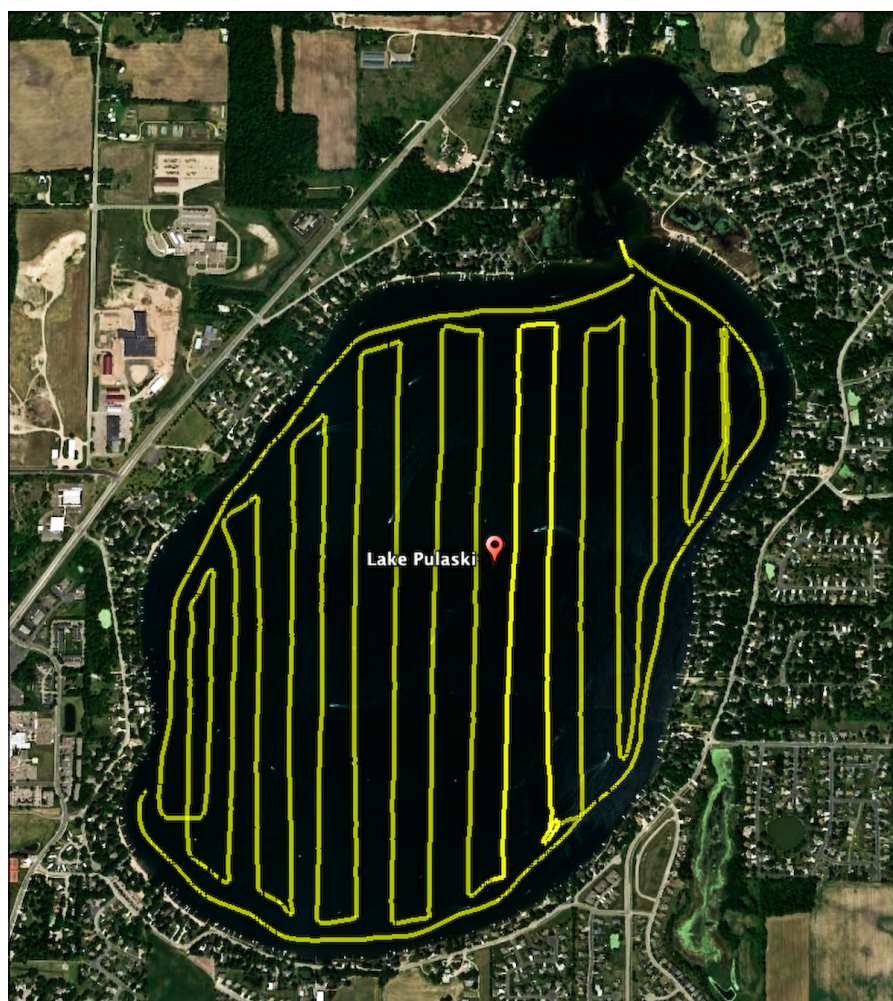
The Forest Lake Sonar Survey and Underwater Archaeology Project (FLSSUA) in Washington County is part of the MHM series of Minnesota Suburban Lakes Survey Projects (MSLS). The FLSSUA is a pre-disturbance Phase 1 underwater archaeological side and down imaging sonar survey of the lake and SCUBA investigation of particular anomalies recognized during sonar review; Crystal Lake in Dakota County, and Lotus Lake and Lake Minnewashta in Carver County were also surveyed. This project is a primary step toward the identification and documentation of submerged cultural resources in Minnesota. The purpose of the MSLS Project is to increase the collective maritime archaeological and historical knowledge of Minnesotans through the remote-sensing documentation of suburban lakes. The specific goal of sonar survey is the recording of anomalies on the lake bottoms and identifying their possible natures. The side and down-imaging sonar unit creates high-resolution digital images; the sonar data accumulated during the fieldwork will be reviewed and analyzed with the intention of

A 1916 plat map of the area round Forest Lake (Hixson 1916).

The red circle marks the location of Forest Lake in Washington County.

Methodology

MHM completed the remote sensing side and down-imaging sonar scanning survey of the 2,270.94-acre Forest Lake in Washington County on May 8, 12, and 15, 2020, with additional targeted survey on July 24. Forest Lake is comprised of 3 connected bays, referred to as the 1st, 2nd, and 3rd lakes. MHM has developed a strategy when sonar scanning lakes that produces the clearest images of the bottom and thorough coverage. Firstly, MHM's research boat *Anomaly 51*, with a sonar transducer attached to the hull that extended below the vessel's keel, scanned the periphery of the lake with a 50-100 foot side-imaging beam on both port and starboard. This 100 or 200-foot area also covered the bottom below the boat with the transducer's down-imaging beam. After the completion of the peripheral scanning, transects running as close to either north-south or east-west as the wind allowed, depending on the shape of the lake. While it is not impossible to scan with the wind hitting the boat from port or starboard in the case of strong winds (and other boat's wakes), the sonar footage that recorded in rough waters can be distorted and of low quality. In the case of Forest Lake, east-west transects were chosen for the 1st and 2nd lakes and north-south transects were used on the 3rd, southern-most lake because of wind direction on particular days. During sonar data reviewal, MHM recognized 49 anomalies that might be wrecks, maritime sites, and other submerged cultural resources.



An example of north-south transects, also known as 'Mowing the Lawn'.

Archaeology and History

In archaeological terms, the area around Forest Lake in Washington County north of St. Paul was populated during the state's prehistory. Two prehistoric sites consisting of the Simmons Point habitation site (21-WA-53) and a burial mound (21-WA-21) of the Woodland Period. The habitation site consisted of lithic flakes and one sherd of Clam River ware and while the burial mound was observed in the late 1800s, it has subsequently been destroyed by development. Just to the north of Forest Lake in southern Chisago County, habitation artifacts associated with another Prehistoric site (21-CH-122) consisted of Swan River chert debitage and a fired cracked rock, while to the west of the Forest Lake on the other side of Highway 35, a single undecorated grit-tempered sherd (21-WA-109) was excavated 50 cm below the surface. Other prehistoric sites dated to the Middle and Lake Woodland era are further west, clustered around 3 small lakes in Anoka County (Howard Lake, Mud Lake, Clear Lake), are comprised of burial and habitation sites. The Howard Lake Mounds & Village Site (21-AN-1) is a collection of 6 burial mounds with evidence of habitation - debitage, stone tools (whitish and other chert, agate, quartz, quartzite, jasperite), pottery, fire cracked rock - throughout the site including on and near the mounds. Human remains have also been identified, including an Oneota burial. Site 21-AN-1 is part of the Howard Lake Archaeological District. Site 21-AN-50 is similar to 21-AN-1, just with 3 mounds instead of 6. Another 4 Middle/Lake Woodland habitation sites (21-AN-43, 21-AN-51 [Gopher Site], 21-AN-52 [Lamphrey Site], 21-AN-53) have been identified around these 3 small lakes to the southwest of Forest Lake, with a wide variety of artifacts documented: decorated sherds, plain sherds, chert flakes, debitage, quartz, quartzite, stone tools, bone, burned bone. Additionally, 21-AN-43 contained evidence of historic Native American and European-American habitation: pottery, stone tools, worked copper, and human remains. Closer to Forest Lake, the Tolzman Farmstead Site (21-CH-128) represents a mid-20th Century farm and iron-working site with building foundations *in situ*, along with a variety of finds such as a milk glass jar liner and jar fragments, wire nails, porcelain, window glass, clay pigeon fragments, metal, and a plastic tail light. (Allan 2017; Arzigian and Stevenson 2003, 333-335, 519; Birk 1975; Budak 1977, 1978a-d; Harrison 1977, 1978a-c; Jerve 2009; Lofstrom and Hudak 1987; Myster 1995; Winchell 1911, 272; Vermeer 2011a-b, 2012a-b).

Resort Town

The Lake Superior Railroad incorporated in March 1861, with plans for the track to begin in Duluth and head southward to the Twin Cities and the Mississippi River, and from there, continue on to the Minnesota River. It was also planned that a branch off the mainline would head east to the St. Croix River. In March 1868, Forest Lake began construction of a 2-story hotel to take advantage of its proximity to the Superior Railroad from St. Paul to Duluth. To entice visitors upon completion of the hotel, the lake was described as "a beautiful sheet of water about ten miles long, and from four to four and a half miles wide. Upon its shores are found a luxuriant growth of timber, embracing oak, maple, tamarack and evergreens, while its waters are alive with fish of nearly all kinds and varieties". In mid-October 1868, the railroad was laid at a rate of 1 mile per day, and reached Forest Lake during the week of October 23 (*Minneapolis Tribune* 1868; *St. Cloud Democrat* 1861; *Winona Daily Republican* 1868).

Railroads.

ST. PAUL & DULUTH RAILROAD.

DULUTH SHORT LINE.

White Bear Lake,
Stillwater,
Forest Lake,
Taylors Falls, and the
Dalles of the St. Croix.

A. B. Plough, Geo. W. Bull,
Gen'l Manager. Gen'l Pass. Agt.
G. C. Gillfillan, Asst. Gen'l Pass. Agt.



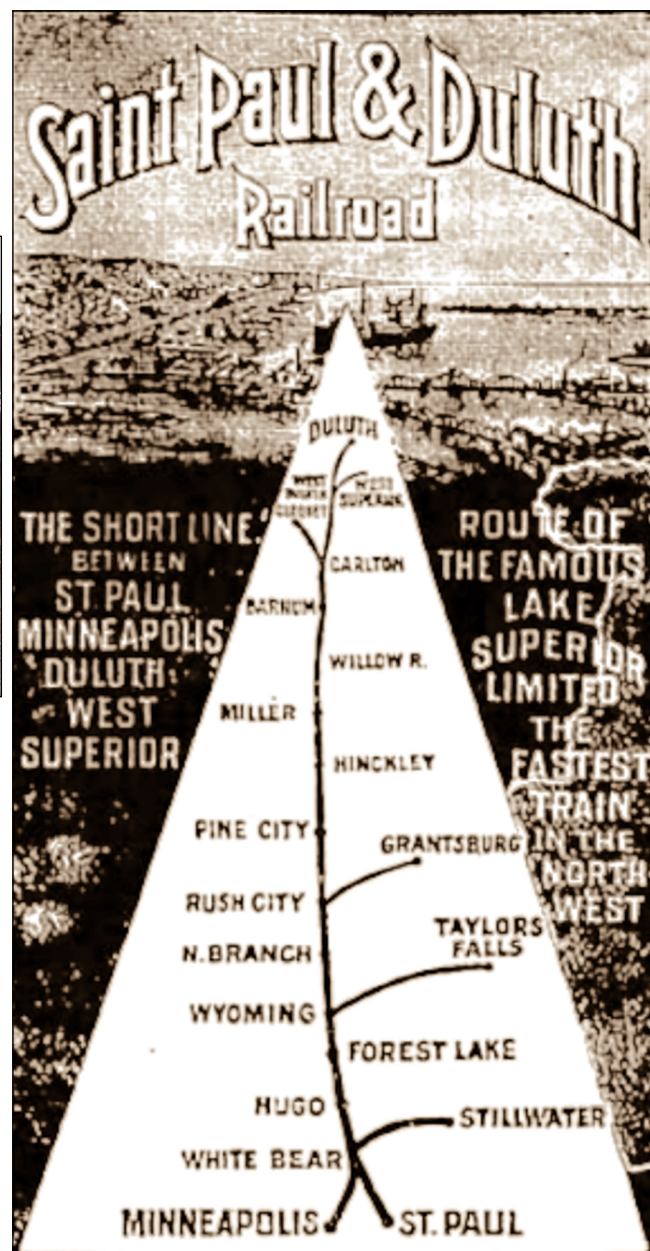
The railroad heading to Forest Lake from the Twin Cities and from Forest Lake to Duluth evolved and changed hands, but remained the primary means of transport from the late 1800s to the mid-20th Century (*Freeborn County Standard* 1890.8.13; *Washington County Historical Society* 1890s; MNHS SA1.31p8; *Labor World* 1899; *St. Paul Globe* 1900).

AMUSEMENTS.

ANNUAL PICNIC

Under the auspices of Prosperity Camp
No. 2, Woodmen of the World, at
FOREST LAKE, SUNDAY, JULY 8th.

All members and friends of Woodcraft
invited. No liquor sold on the grounds.
Music, Games, Boating, etc. Round trip
50c; children 25c. Trains leave Union
Depot 9:06 a. m. and 2:00 p. m. Tickets
for sale by Oscar Pearl, 133 E. Sixth St.;
R. F. Hiler, 133 E. Fifth St., room 4; E.
L. Mabon, 248 E. 4th St.
Committee will be at trains.



In late July 1869, a passenger railroad depot was under construction in Forest Lake, with a new locomotive expected to operate on the line soon. Twin Citians returned from excursions after "a two days' fishing *smack* at Forest Lake 'loaded to the guards' with the wiggling, shining trophies of their prowess with the rod and line". The lake was becoming a destination "for the labor-worn people of the South and West" along with the smaller lakes in the vicinity of the Twin Cities such as "Bald Eagle Lake, Lake Elmo...Owasso and Johanna, all of them equal to the [large] lakes [White Bear and Minnetonka] in beauty, interior to them only in size. The sportsman can find in their vicinage all the sport his heart can desire" (*Minneapolis Tribune* 1869; *St. Paul Daily Globe* 1878; *St. Paul Sunday Globe* 1880). However, even with reports of the great fishing at Forest Lake, it was not well known by many tourists or day-trippers from the cities:

...this beautiful lake is almost unknown in [St. Paul] except by a favored few who have kept its merits to themselves in order that their pursuit of game, fish and pleasure should not be interfered [sic] with. The lake covers an area of some thirty square miles. The water is clear and deep, and it has a sandy bottom. The banks are bold and covered with heavy timber. The lake is more abundantly stocked with fish than any other lake within a radius of 100 miles from St. Paul. In addition, the sportsmen have referred to are aware of the finest duck runs in the State, but this knowledge they have kept carefully to themselves. The lake is within a few rods of the depot on the St. Paul & Duluth road, and is twenty-six miles from St. Paul (*St. Paul Daily Globe* 1880a).

The accommodations at the Gurney House, with its 6 cottages, ample shoreline, and its proximity to the railroad depot, the Forest Lake House with its 'city-like' conveniences, and the pleasure of gaming, fishing, [and] rowing....[make] this beautiful lake...worth a visit". However, large groups such as the Great Union Band recognized the benefits of pleasure trips from St. Paul to Forest Lake, the "beautiful resort on the Duluth road. As this will be the first excursion to the lake it will give people an opportunity to visit something new to them". The band's experience in Forest Lake "was a marked success, both in point of numbers and the enjoyment of the occasion...fully two hundred persons, old and young, were congregated at the depot awaiting the departure of the...special train [that] was soon under headway for the objective point - Forest Lake - a new place for a Sunday picnic." The following year, the St. Paul and Duluth Railroad began chartered Sunday excursions to Taylors Falls, the Dalles, Chisago Lakes, and Forest Lake. The numbers using the railroads for transportation between the Twin Cities and Duluth increased yearly, and the St. Paul and Duluth constructed several new depots, including at Forest Lake. In May 1883, an additional train was added to the St. Paul-Forest Lake route (*St. Paul Daily Globe* 1880a-b, 1881a, 1883a; *Warren Sheaf* 1881).

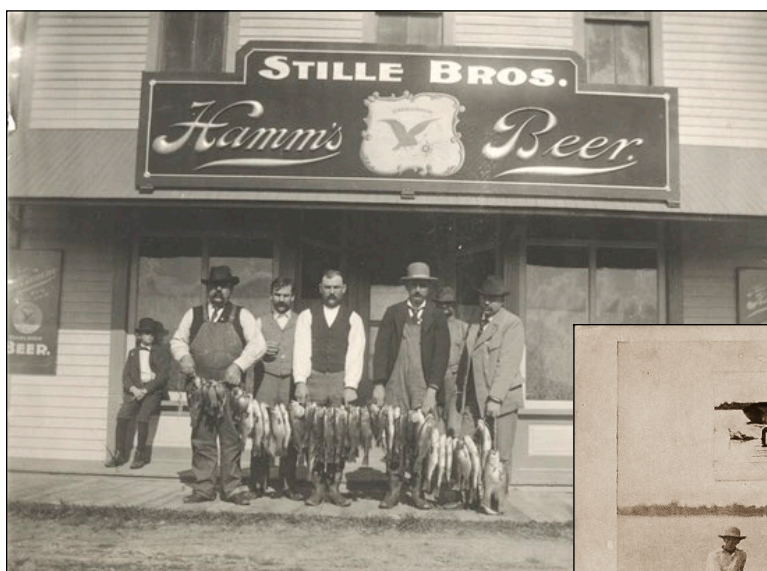
Over the next several decades, Forest Lake became a destination for not only fishermen, but hunters as well, many of them from Stillwater and St. Paul. The numbers of fish and game taken during a 2-day excursion could number in the 140-range for ducks and 100 pounds of black bass, "making one of the finest strings of fish ever brought into the county" in the early 1880s. Some fishermen were deemed so successful, after just a weekend of angling in Forest Lake, that upon returning to St. Paul, they fed their entire neighborhood with their catch. Another time, 3 young men caught 12 bass and 8 pickerel that weighted an average of 4.50 pounds each, some men returned from Forest Lake with 43 black bass weighing 132 pounds (*Minneapolis Tribune* 1880; *St. Paul Daily Globe* 1880c, 1881b-c, 1883a, 1884, 1890).



The Marsh Hotel (left) was popular until it burned down in the early 1890s, (Washington County Historical Society 1870s). The Euclid Hotel was large and great for families (MNHS MW4.9FLr20; MNHS MW9.4FLr1).



The Park Hotel in Forest Lake (MNHS MW4.9FLr31).



A nice string of fish taken from Forest Lake (MNHS I.551.21)

The lake also has abundant waterfowl.



Other examples pleasure trips to Forest Lake by large groups include the Grand Union Band of St. Paul, 5 societies from Duluth in the German Singers' Union that participated in a picnic trip, and to enjoy "a vocal concert in the beautiful grove of Mr. Marsh, boating, fishing, carriage riding, swinging and other picnic recreation", the Swedish Society Vega, the Organization of Stationary Engineers, and Pioneer Lodge No. 1. The Railroad Company focused on specific hotels to increase their ridership, and chronicled the experiences of their riders "at Marsh's hotel, Forest Lake, returning yesterday morning with several pounds of fish, among which were several three to five-pound bass and pike. The season at the above resort has been one that surpasses any previous in the number of permanent boarders and transient guests....The fishing this year is fully equal to the reputation that Forest Lake enjoys in this respect. The nights are beautiful and cool, and free from mosquitoes and flies, which enables one to sleep the refreshing sleep of rest". Quaintly, even "Lady tourists" were reported as going to Forest Lake on pleasure trips (*Minneapolis Tribune* 1885; *St. Paul Daily Globe* 1882a-b, 1883b-d, 1885; *St. Paul Sunday Globe* 1882c). The Railroad Company also authored columns in newspapers that referred to Shakespeare, and for this project, a tiller and oar:

"Is there anything more invigorating than a summer's outing, with its manifold pleasures, its many sports and pastimes? Poor is he who knows not the joy of being clad in gaudy blazer and airy flannels, with a tennis racket, tiller or oar in his hand, with a sunny sky above and a greensward or a rippled silver surface beneath him. Poor? "Ave' there's the rub," as friend Hamlet would say. Most of us are entirely too poor to dream of it even. And yet we may enjoy brief outings, which will be well-springs of pleasure. We can go to White Bear and lounge; to Chisago or Forest Lake and fish; to Lake Superior....All these, and more, too, may be reached by the Saint Paul & Duluth Railroad" (*Irish Standard* 1890).

To attract summer pleasure seekers and fishermen to ride trains from Minneapolis to near-by resorts, the Railroad Company touted their "Summer Rates. Round trip summer rates to local resorts on the St. Paul and Duluth railroad, including Forest Lake, Chisago Lakes, Taylor's Falls, Rush Lake, Pine City...are now in effect. Bass are biting as never before. Trains from Chicago, Milwaukee and St. Paul depot, corner Washington and Fourth avenue south, Minneapolis." In addition to fishing and boating, baseball games between a St. Paul team "the base ball nine" from Forest Lake were advertised; prior to traveling to Forest Lake, the St. Paul team "had quite a misfortune by having their suits stolen out of their club room" (*Minneapolis Tribune* 1895; *St. Paul Daily Globe* 1895).



Above: Boating - and probably fishing on calm Forest Lake in 1907 (MNHS MW4.9FLr7).

Below: Using a punt pole to move through the Forest Lake marshes, with fishing poles resting on the starboard side quarter.



In addition to day-trippers, many summer-long merry-makers had their choice of cabins, cottages, or lake homes at Forest Lake for summer rental, including "one of the finest homes on the lake shore, furnished, with use of boat and close to depot; if you want a handsome home for the summer don't fail to look this up" (*St. Paul Daily Globe* 1896a). Similarly:

'The Doctor's Club' is a recently organized social club composed of St. Paul physicians and a few friends, and was conceived and organized by Dr. C.L. Dohm. Dr. Dohm has placed at the disposal of the members his commodious cottage, which is beautifully situated on the south shore of Forest lake, twenty-seven miles from St. Paul. the cottage has been furnished with luxurious taste and a housekeeper engaged to care for it and make everything comfortable. A new sail boat has been ordered and there are enough row boats, fishing tackle...at the club's disposal to last for any number of seasons. The club house will be open all of the time....The situation could not be a prettier one, Forest Lake is a most beautiful sheet of water and one of the best fishing grounds in this vicinity" (*St. Paul Daily Globe* 1896b).

WHITE BEAR AND SUBURBAN.

BEAUTIFUL summer home, completely furnished, boats, etc., at Forest Lake, for rent for the season. Apply

CATHCART & CO.,

23-24 Merchants' National Bank Bldg.

Many homes and cabins were rented for the summer season, mostly to Twin Citians (*St. Paul Globe* 1899).



Most of Forest Lakes shoreline by the early to mid-20th Century was lined with cabins, boathouses, and docks.



The early-to-mid-20th Century saw the establishment of more lodges, multiple resorts with housekeeping cabins, 'Tourist Camps', and additional hotels in and near the town of Forest Lake and all around the lake. Of note was the Sunshine Lodge, part of the International Sunshine Society that served deserving groups, particularly blind and poor people. The Society's Minnesota Division acquired a Forest Lake cottage in February 1906 that developed into a larger lodge, named after Advisory Board Officer Mary Davis. The Lodge could accommodate 20 women and children weekly in its early years, and with its long lakeshore and bath house, the visitors could use the lake to its greatest advantage. Early on, the Lodge held rights to the near-by school well, providing fresh water for the inhabitants of the camp, with plans for a dedicated well drawn up. When the Lodge opened in June 1906, transportation for the lodgers from the Twin Cities to Forest Lake was furnished gratis by the Northern Pacific Railroad, the owner of the 'Superior Road' at that time. The Lodge also accommodated visitors in a series of small cabins. By late July 1921, the Lodge set an accommodation record: 147 women and children in a single week. That summer, in 1921, 1,146 children and their mothers had spent time at the Lodge. By 1941, Sunshine Lodge was accommodating 200 women and children weekly between June 23-August 25. The Mary Davis Sunshine Lodge closed in the late 1950s (*Minneapolis Journal* 1906a-d; *Minneapolis Tribune and Star Journal: Sunday Magazine*, 1941; *Minnesota Daily Star* 1921a-b; Peterson 2018).



The Mary Davis Sunshine Lodge on Forest Lake began as a small cottage, but expanded to include 3 wings and several cabins (*Minneapolis Journal* 1906a; MNHS MW4.9FLp1).

By 1920, 'Tourist Camps' were becoming a viable option for Minnesota motorists, with Brainerd leading the way. Another site along the state's highways where good, safe campgrounds could be found was Wahkon on Lake Mille Lacs that provided bathing and fishing, where "boats and fine launches are also provided". The Wahkon Tourist Camp was planning to provide a pavilion, toboggan slide, a high diving platform, and improved, larger bath houses for the next season. Other towns participating in the Tourist Camp offerings, where cooking facilities, and other amenities were available, were Albert Lea, Willmar, Winona, Lake City, Wabasha, Red Wing, Hastings, Alexandria, Glenwood, Walker Tower, Ely, Two Harbors, Mankato, Ortonville/Big Stone Lake, Rochester/Mayo Park, Little Falls, Aitkin, St. Cloud, Minneapolis, and St. Paul. The Camps were designed to appeal to 'motoring vacationers' who could find a camp site in nearly every larger town or city in the state. In 1926, 230 'Tourist Camps' were set up around Minnesota, including at Forest Lake. Tourist Camps were still promoted and in use in 1945 (*Brainerd Daily Dispatch* 1920; *Minneapolis Sunday Tribune* 1926, 1945).



Tourist Camp Grounds, Forest Lake, Minn. L-796

Tourist Camps were popular destinations on Forest Lake with Minnesota motorists (MNHS MW4.9FLr26; *Minneapolis Tribune* 1937).

GUEST REGISTER For Tourist Camps \$1.25

Owners of Trailer Cars are required by law to register all members of party in every Tourist Camp visited. Information required: Make of Car, License, Registration Card Number, Name, Address and Date.

Farnham STATIONERY & Co.
SCHOOL SUPPLY
419 Hennepin Ave.
Lumber Exchange Bldg.



[BACH 508]

FOREST LAKE, MINN.—A Peninsula Camp—Room for One More

'Sister hotels' were advertised at \$1.50-\$2.00 per day; one located 10 feet from Forest Lake and another on near-by Clear Lake. The lakes were touted as having abundant pike, bass, pickerel, and croppies [sic]. For the FLSSUA Project, it was reported that the Forest Lake had 60 row boats available for \$1.00 daily rental. Prices for the Summers Hotel reflected the \$2.00 daily rate or \$10.00 per week, even in 1916. In the mid-1930s, after prohibition, one Forest Lake hotel was offered for sale, with a 'modern' restaurant, "hard liquor bar", and 3 cottages on the lake. The variety of lodging types chronicled throughout the first half of the 20th Century includes: the Euclid Hotel, Forest Home, the Summers Hotel, Finnegan's (3 housekeeping cottages), the Commercial Hotel and Cottages, Forest Lake Country Club (a lodge and cottages), Harrington's Cottages and Boat Livery (3 housekeeping cottages), Pleasant View Lodge (lodge and 5 housekeeping cottages), Smith's Cottages (5 housekeeping cottages), Modern Bungalows, Foriam Inn (modern bungalows), Judd's Drive-In Cate' and Motel, Lakeside Cabins (advertised with available boats), Ran's Cabins ('modern tourist court), Vogel's Inn (modern bungalows), and Willow Point Resort (Holland 2013, 43-43, 49, 52, 55; *Minneapolis Sunday Tribune* 1916; *Minneapolis Tribune* 1935; *St. Paul Globe* 1901).

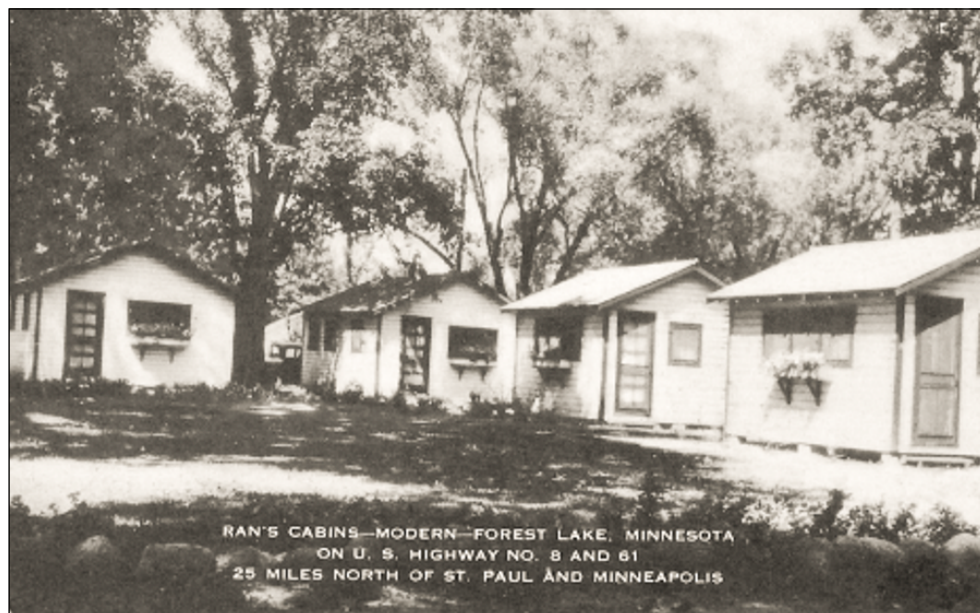


The above large fleet of small wooden watercraft were part of a Forest Lake boat livery. Note the different sizes of boats in the bottom 2 images at the same dock over time.



Ran's Cabins in the 1950s.

The collection of boats in this boat livery include wooden wineglass stern watercraft and flat-bottomed vessels that suggest they are Fisherman's Friend models (MHM Collection).



Forest Lake Sonar Survey Results

MHM has located and identified small watercraft wrecks on the bottom of smaller Minnesota suburban lakes including Christmas Lake, Medicine Lake, Lake Johanna, and Prior Lake. MHM has also identified and documented small wrecks in larger lakes including Lake Minnetonka, White Bear Lake, and Lake Waconia. In December 1879, "Last Thursday G. Rahm broke through the ice on Forest Lake where the water was twelve feet deep. He saved his own life with difficulty, but lost a valuable team". It can be assumed that the carcasses of Rahm's horses went to the bottom of the lake and remained there, along with his cart or sleigh or wagon. In mid-June 1927, during a family outing in a wooden fishing boat on Forest Lake, 6 people drowned and 2 were retrieved alive from the water by near-by fishermen. Sharing a motor, 2 families

picnicked on Third Forest Lake for lunch and then rented a small boat for an afternoon of fishing. The boat remained about 1,000 feet from the Third Lake Boat Launch, anchored, for most of the afternoon. Apparently the fish were not biting in their first location, and the 12-year old boy in the boat was asked to raise the anchor. Too heavy for him, one of the adults went forward to help him and capsized the boat. The boy climbed onto the bottom of the capsized watercraft and yelled for help to fishermen in a boat nearby. In the end, the boy and his mother were pulled alive from the lake, while 6 others - aged 2-38 - drowned, including an entire family of 3 people. In reference to this accident and the possibility of locating the boat on the lake bottom, it is unknown if the boat simply capsized, or if she also went to the bottom. A headline linked to a story about this incident does claim "Six Drown as Boat Sinks at Forest Lake" Another account of the boat accident simply claims the boat capsized (*Minneapolis Daily Star* 1927; *Minneapolis Morning Tribune* 1927; *Minneapolis Tribune* 1879). Anomaly 6, recognized in sonar footage recorded in May 2020 and dove upon in October, may be this wreck.



(*Minneapolis Morning Tribune* 1927).

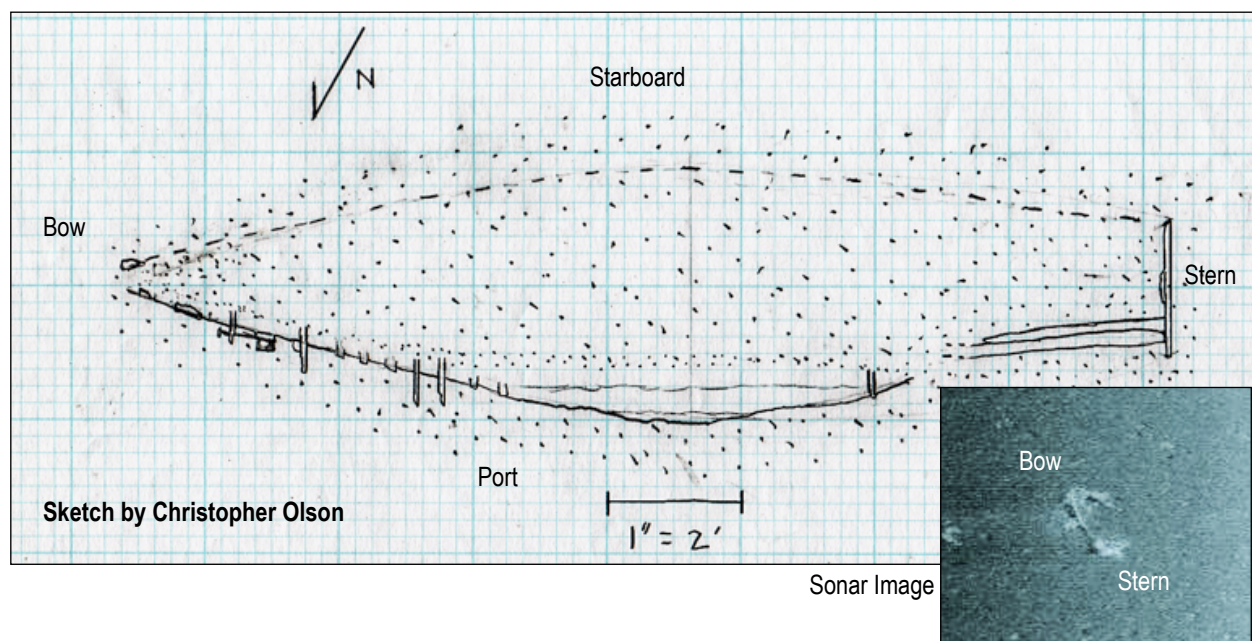
MHM has identified 49 anomalies in the sonar footage recorded during the remote sensing survey of Forest Lake. MHM has determined, through SCUBA reconnaissance, that 6 of the anomalies are wrecks (A1, A6, A9, A11, A13, A16), 1 is a boat lift (A15), and a series of anomalies are trees and divots (A42a, b, c, d). Ten other targets are probably wrecks, as indicated by their acoustical signatures (A10, A12, A14, A21, A25, A26, A28, A31, A35, A44), and an additional 11 anomalies may be wrecks (A22, A23, A24, A27, A30, A34, A36, A37, A40, A41, A46). A few anomalies are maritime resources: fish house (A3), possible fish house (A33), dock boat canopy frame (A38), possible parts of a boat lift (A5a-b), possible single pontoon (A45), recreational raft components (4 barrels, deck section, A47a-b), and a trailer/wagon/cart (A7). Two anomalies are cars (A2, A4), a possible vehicle (A20), 2 possible snowmobiles (A43, A49 [capsized]), 3 anomalies may be parts of a plane (A17, A18, A19), an unknown square object (A48), and 3 unknowns (A29, A32, A39). The most obvious anomaly on the lake bottom, due to its length, is a modern pipe, cable, or electrical conduit (A8). The investigation of 8 anomalies using SCUBA took place in October 2020. The remaining anomalies will be identified in the near future, prioritized by color so that the chosen targets will answer the most archaeological questions pertaining to their nature, age, condition, and historical significance: High (1), Medium (2), Low (3).

Forest Lake Underwater Archaeology Results

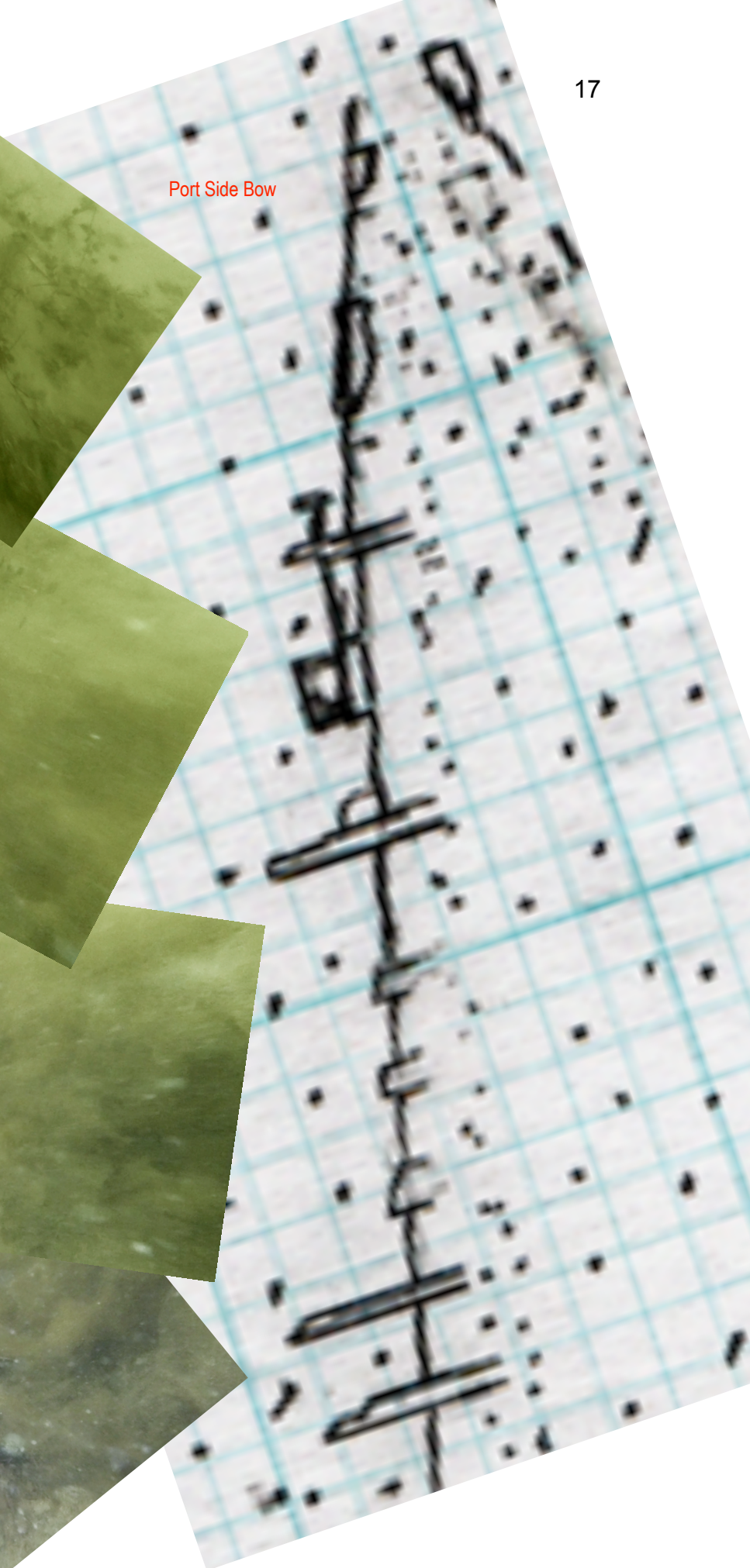
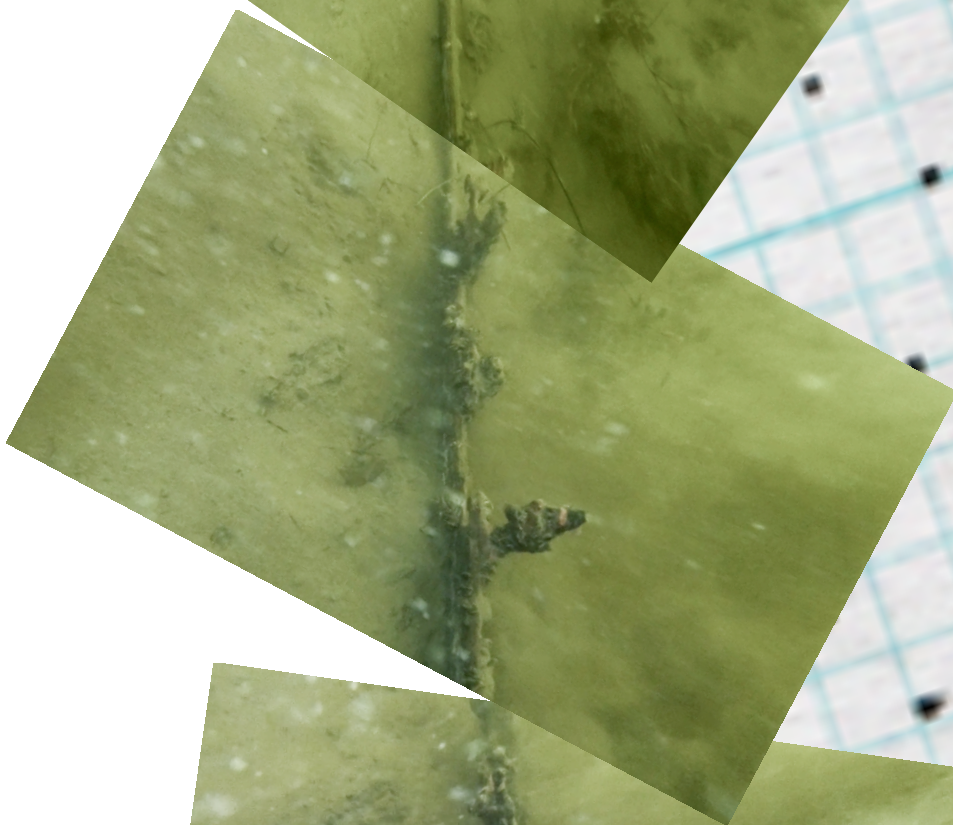
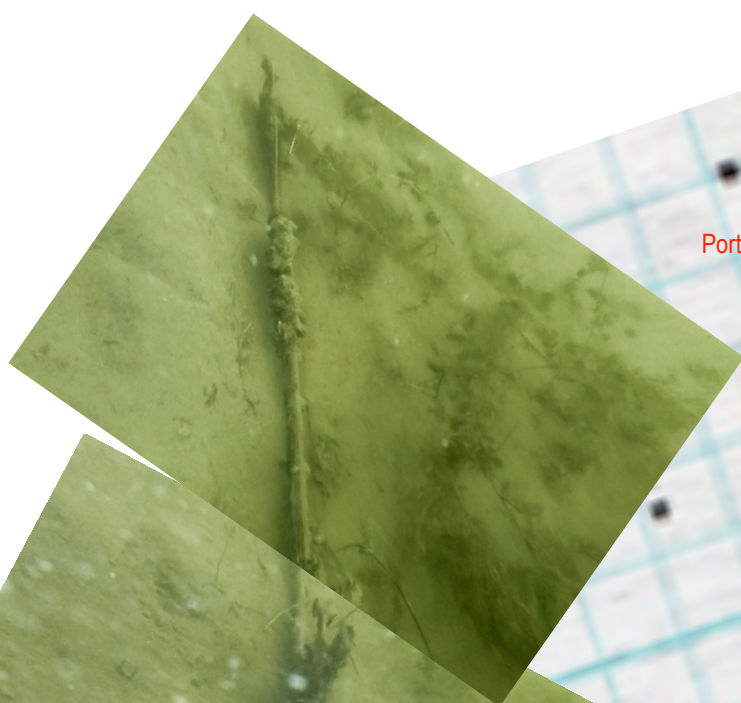
As detailed above, hotels and guest houses during the late 19th into the mid-20th Centuries north of the Twin Cities hosted daily, weekly, and seasonal patrons. To serve their guests, hotels, cabin owners, cottage managers, and resort owners maintained fleets of small watercraft for their patrons. Four of the 6 wrecks on the bottom of Forest Lake identified by MHM in 2020 may be members of resort fleets, while 2 of the wrecks are personal watercraft of lake residents or visitors.

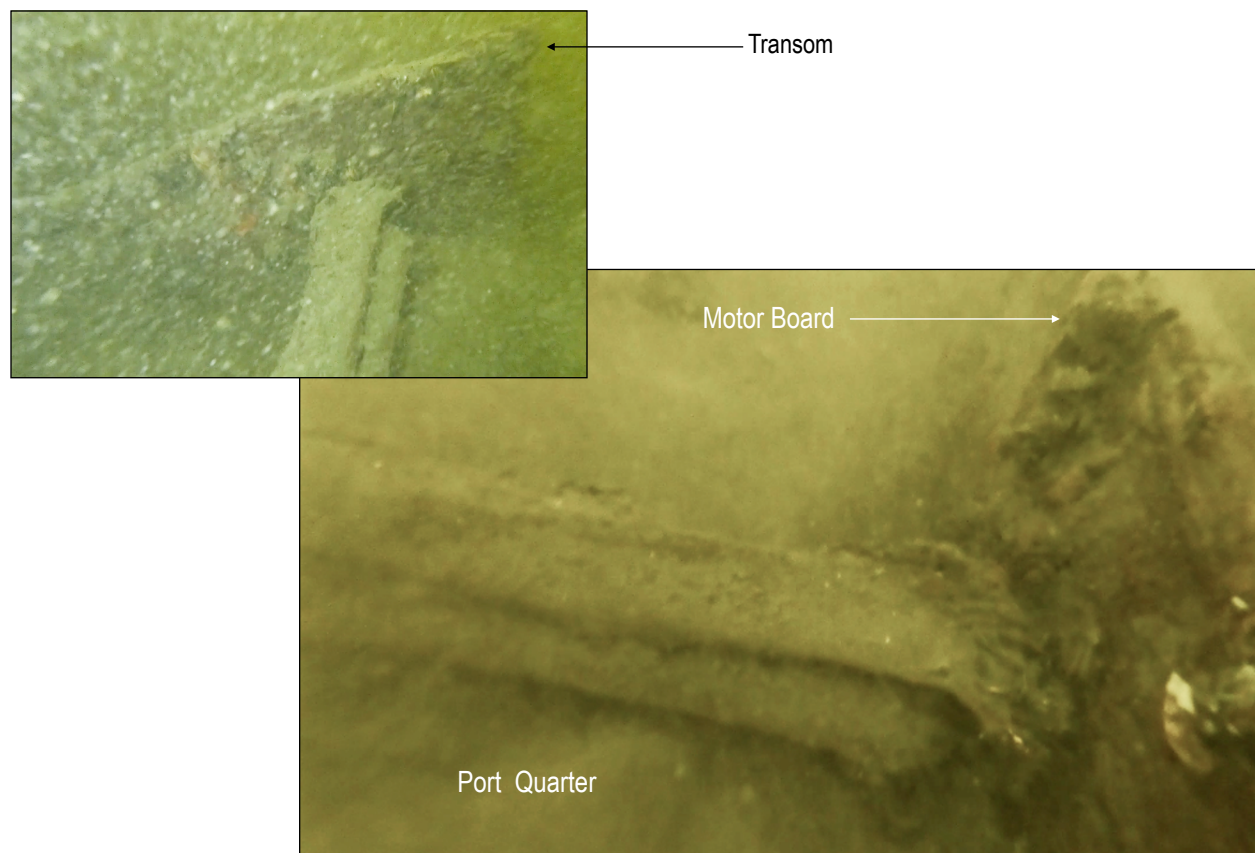
Flat Bottomed Outboard Motor Boat Wreck, 21-WA-123 (Anomaly 6)

The Flat Bottomed Outboard Motor Boat Wreck is 15.40 feet long, 4.00 feet in the beam, and 2.00 feet at the transom; this vessel size reflects the site boundaries, and not the original dimensions of the watercraft. When constructed, the boat was about 16.00 feet long, 3.50 feet in the beam, with the 2.00-foot transom. This carvel-built rowboat wreck (the hull is constructed with planks set edge to edge) is nearly buried, but key construction attributes are visible above the silt that allows for certain questions to be answered about her nature and design. Her pointed bow is damaged and what does survive is mostly buried, with part of a strake above the silt on the starboard bow. An upper strake on her port bow survives, with thin futtocks attached to it that rise above the lake bottom. The futtock ends have eroded into sharp points, while the remaining frames - at least on the port side that is visible - survive and are attached to the exposed strake, but they do not protrude above it and the ends are eroded and rounded. The gunwale does not survive on the port side; it is unknown if it exists on starboard due to the buried nature of the wreck on that side. The transom stern is trapezoidal and it nearly exposed on the port quarter. A damaged motor board is attached to the inside of the transom; it appears the transom is intact. Three port quarter strakes are visible, lying on top of each other, collapsed and unattached from the transom. The position of the strakes suggest they may have been of lapstrake construction, but that visual is misleading. The port strakes, when they became detached from the transom, fell inward, lying nearly at the centerline of the wreck. The bottom of the hull is buried, but the transom design indicates the wreck has a flat bottom. MHM contends the watercraft was constructed around 1915, when flat bottomed vessels with soft chines were constructed with many thin frames as opposed to flat bottomed boats with hard chines and few, but thick, frames. Further, while small outboard motors were developed earlier, around 1900, they were widely available in Minnesota by 1915. A sinking date of 1925 is reasonable; a lifespan of 15 years for a small wooden boat was common and the nearly buried nature of the site suggests this date. MHM submitted an archaeological site form for the Flat Bottomed Outboard Motor Boat Wreck to the OSA, and received site number 21-WA-123.



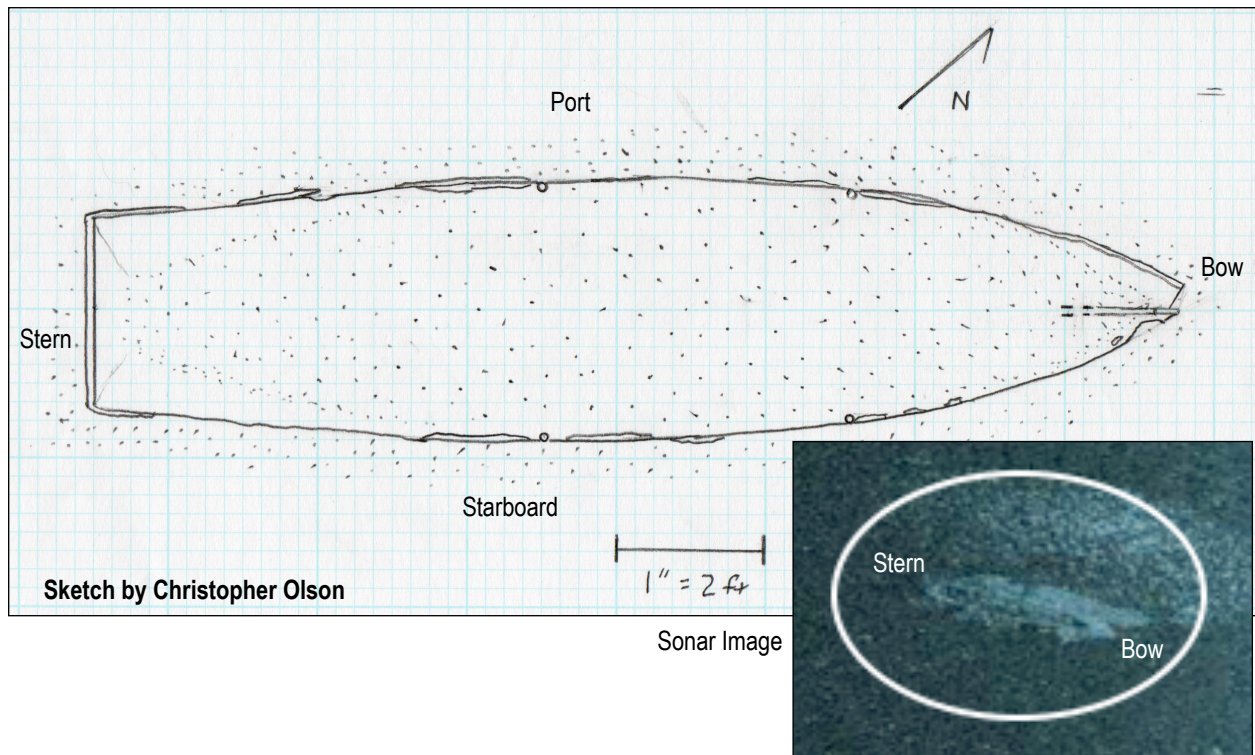
Port Side Bow



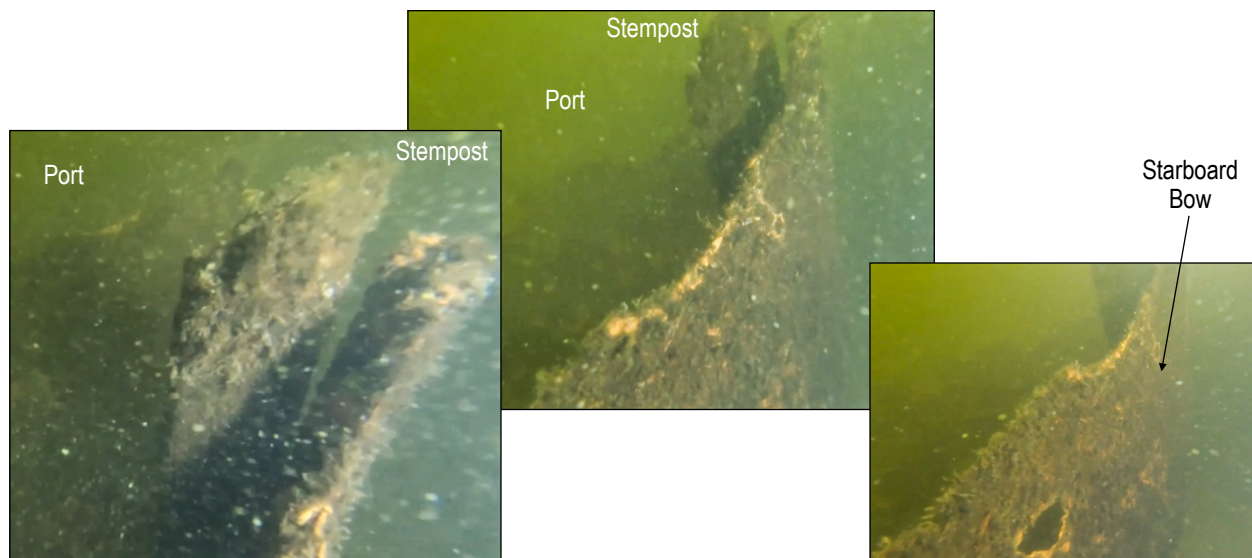


Steel Wineglass Stern Wreck, 21-WA-122 (Anomaly 16)

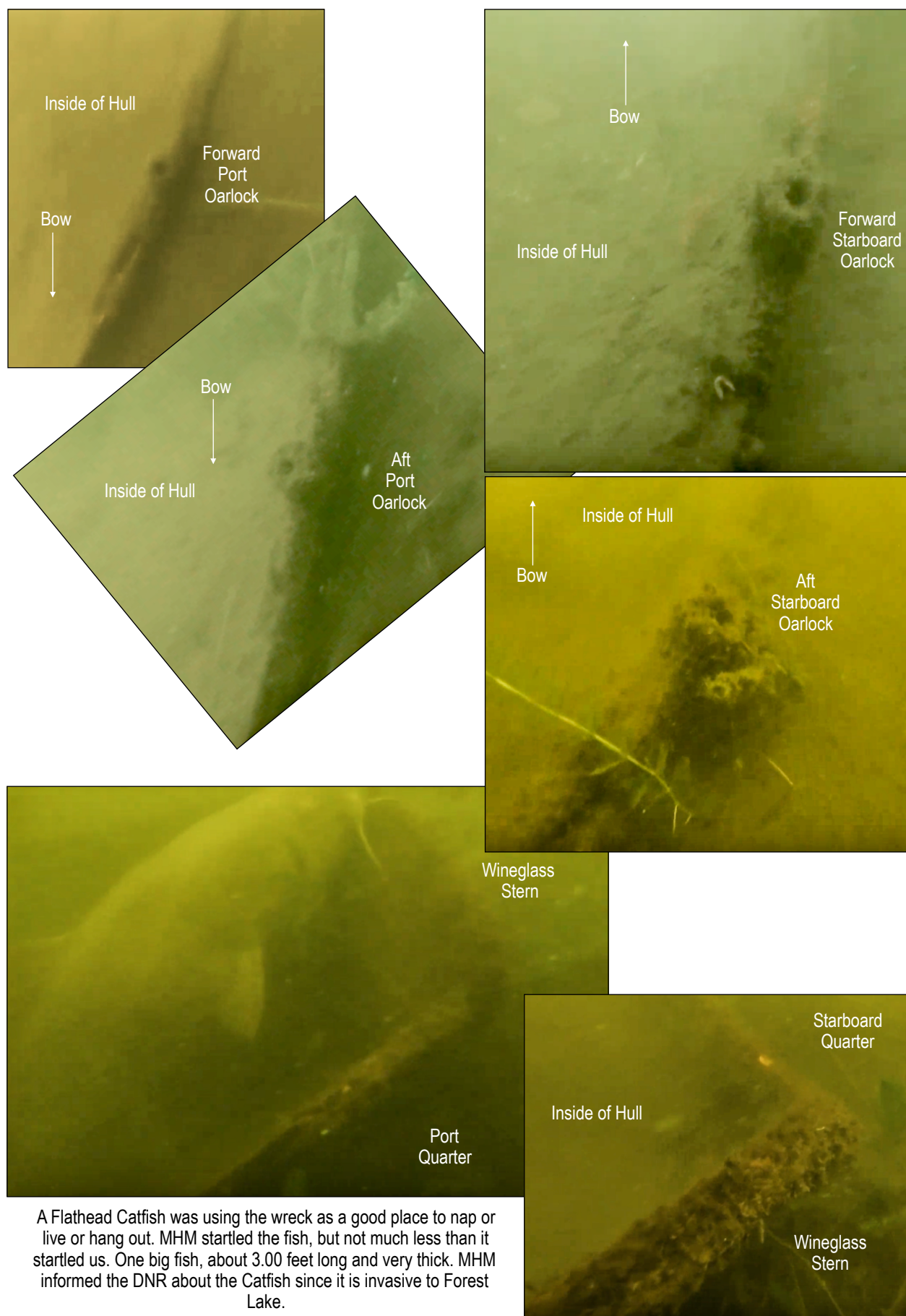
The Steel Wineglass Stern Wreck is 14.50 feet long, 3.50 feet in the beam, and 2.50 feet wide at the transom. The pointed bow is damaged but relatively intact, although the stempost has separated from the port and starboard bow. The keelson is exposed forward, but is covered in silt amidships and aft. The gunwale and caprail are eroded at the bow and holes have developed through the hull on the starboard side. The gunwale and at least part of the port quarter caprail survives. The stern is of the wineglass design - a type not commonly found in steel. Two sets of oarlocks are extant; the wreck must have 2 steel or wood benches amidships that correspond with the oarlocks. The forward bench is defined under the silt but it cannot be discerned further. Fore and aft, enclosed benches that created air chambers that served as flotation probably existed when the boat was constructed; they are missing from Anomaly 16, but MHM is confident they were there. Much of the forward hull is clear of silt and a keelson is plainly seen down the centerline. MHM contends the Steel Wineglass Stern Wreck was constructed around 1915. Due to her partially buried nature, MHM suggests a sinking date of 1950 is reasonable. One of the earliest manufacturers of small steel boats was the W. H. Mullins Company of Salem, OH; prior to 1905, Mullins primarily constructed row boats. Also, some Minnesota companies produced small steel boats in the early 20th Century including Pearson's of Duluth, the Minneapolis Steel Boat Company, O'Hara Brothers Boat Company, and the Sanderson Boat and Engine Company (*Minneapolis Journal* 1905; *Minneapolis Tribune* 1904; W. H. Mullins Company, 1907). MHM submitted an archaeological site form for the Steel Wineglass Stern Wreck to the OSA, and received site number 21-WA-122.



Minneapolis Steel Boat Company: Steel Wineglass Stern Watercraft

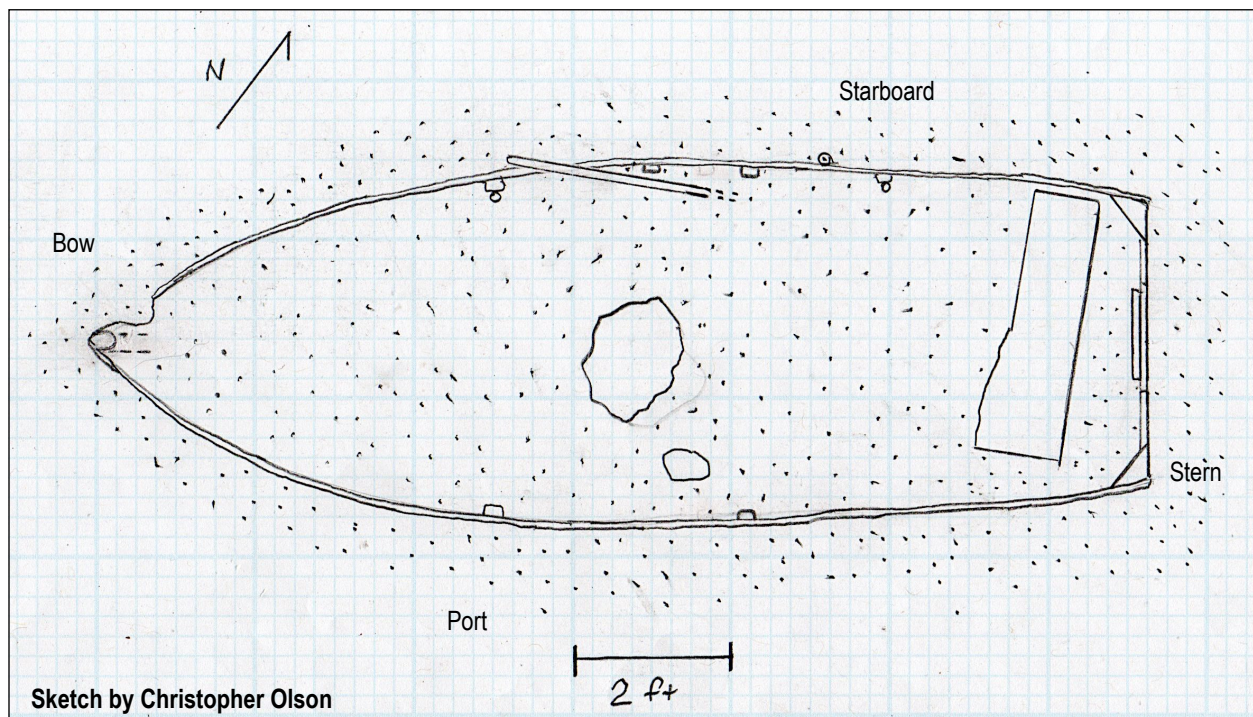


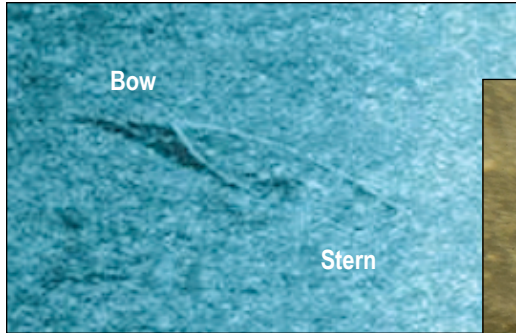




Wooden Homebuild Wreck, 21-WA-125 (Anomaly 9)

The Wooden Homebuild Wreck is 13.20 feet long, 4.50 feet in the beam, and 3.50 feet at the transom. This carvel-built wreck (the hull is constructed with planks set edge-to-edge) is partially buried. The bow is sharply raked with a substantial stempost somewhat roughly hewn out of a sturdy tree branch. A towing loop is bolted through the stempost near the waterline. The starboard bow reflects a major hull repair; a wide and nearly triangular section of wood replaced the strakes. Her gunwale is intact throughout the hull with a loose remnant of a rubrail or a caprail on the starboard side amidships. The transom stern is nearly buried and the top edge of an inner motorboard is visible; the gunwale is intact and designed to carry an outboard motor. Two gunwale level horizontal knees on both the port and starboard quarters provide extra rigidity to the hull. A few thick rectangular frames can be discerned on the port and starboard side, above the silt. One oarlock can be discerned on the starboard side amidships while 2 metal loops survive that served as attachment points for fishing gear. The stern bench is extant but not attached to the hull. The wreck had at least 2 and possibly 3 additional benches that are either missing or buried in silt. Several layers of different colors of thick paint are discernible including white, blue, green, and yellow. Some large stones lie in the hull, suggesting the boat was purposefully scuttled. The inclusion of the rough-hewn stempost and the sharply raked bow are indicators of amateur construction, referred to as homebuilds. MHM contends the watercraft was constructed around 1925 and taking into consideration the starboard side hull fix - not something often seen in small wooden boats - a sinking date of 1950 is reasonable. A lifespan of 10-15 years for a small wooden boat was common, but the effort put into increasing this watercraft's longevity through hull maintenance and repeated surface treatments through re-painting and priming, suggests a life span of 25 years. MHM submitted an archaeological site form for the Wooden Homebuild Wreck to the OSA, and received site number 21-WA-125.

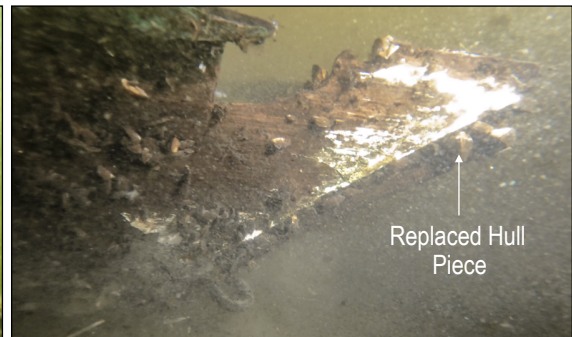
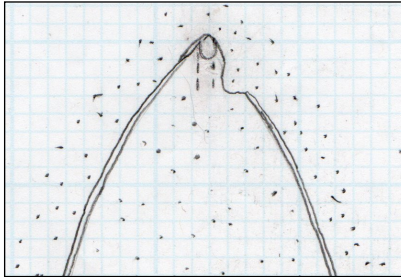
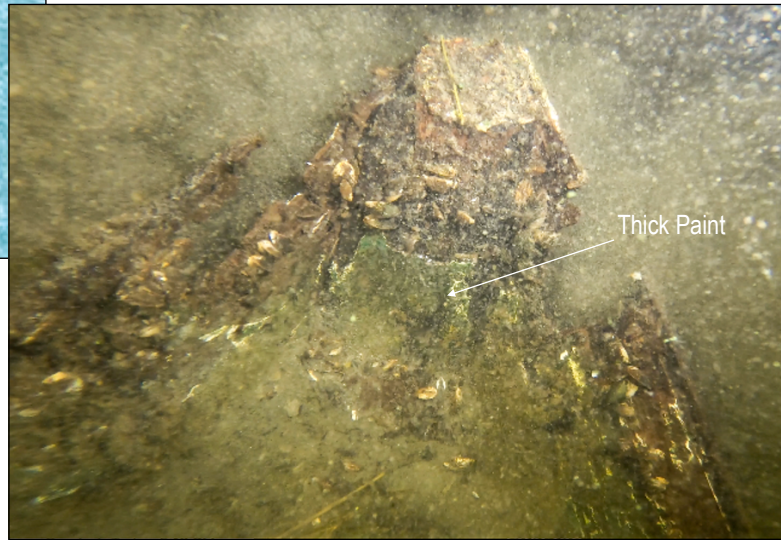




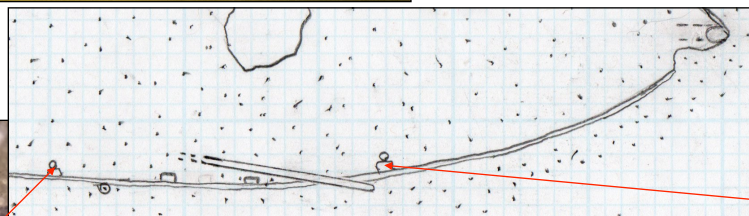
Sonar Image

Rough-Hewn
Stempost

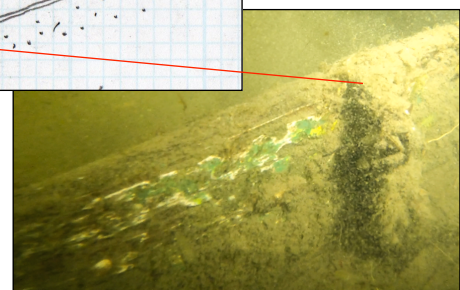
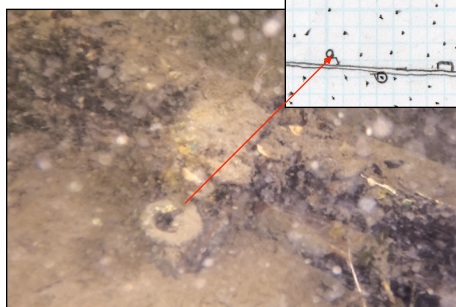
Bow

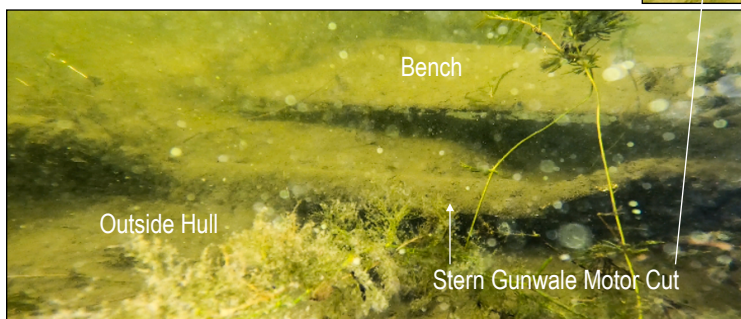
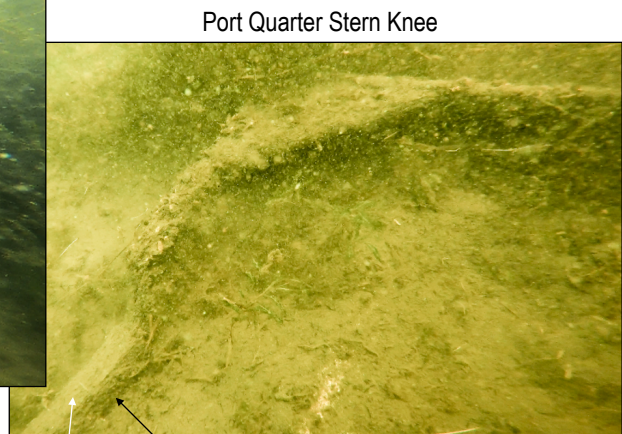
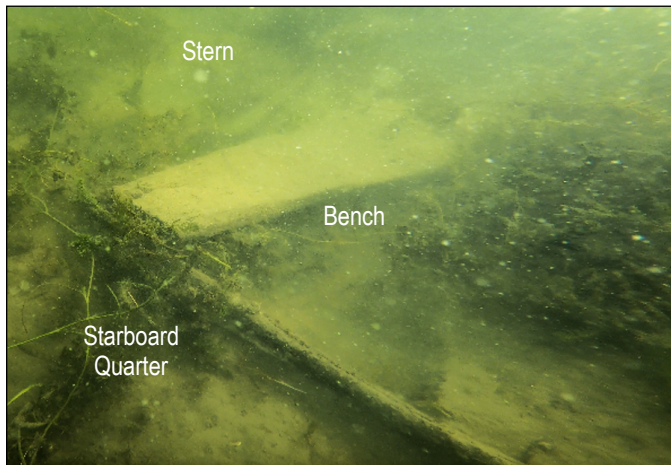
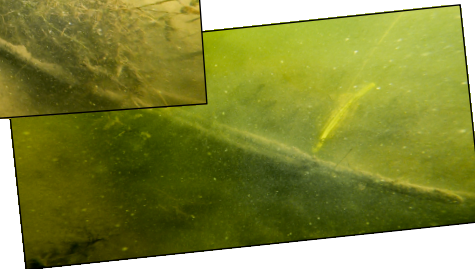
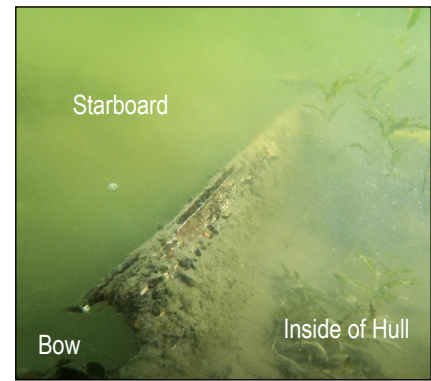


Towing Loop

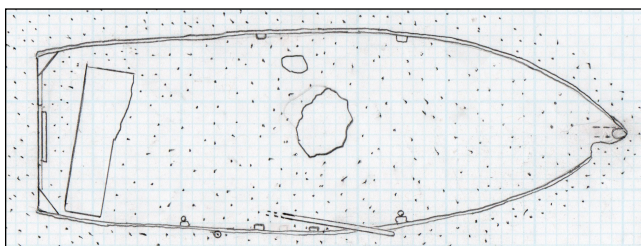
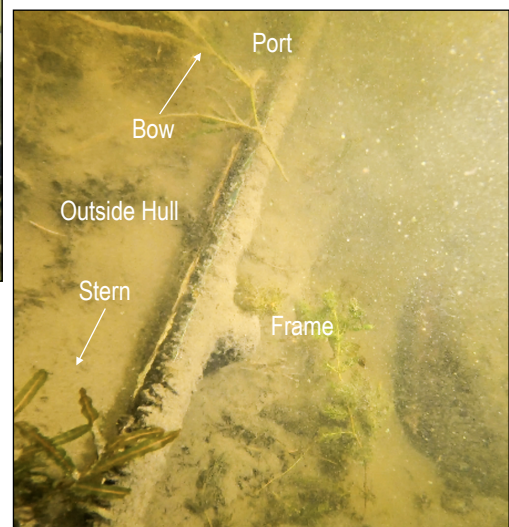


Starboard



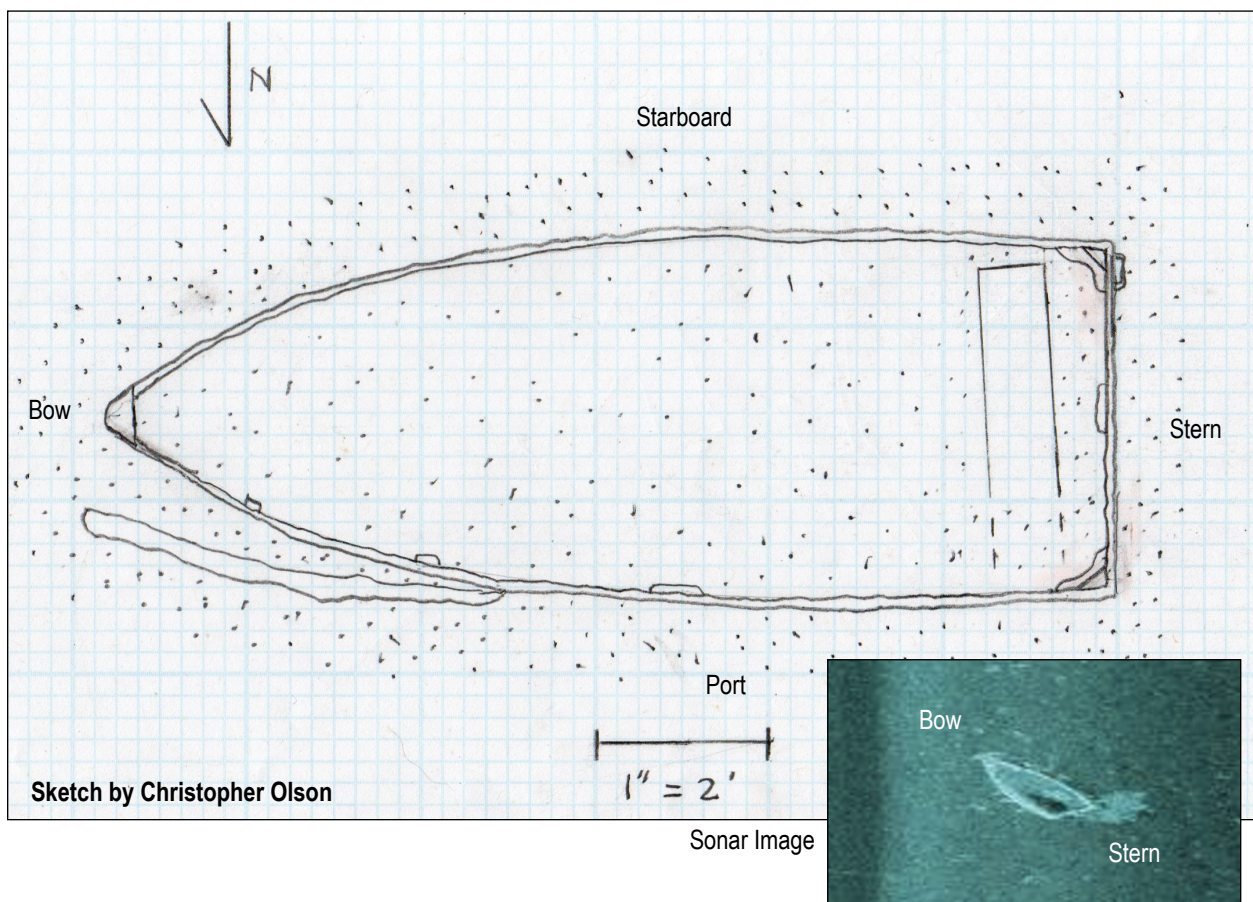


Top of Motor Board



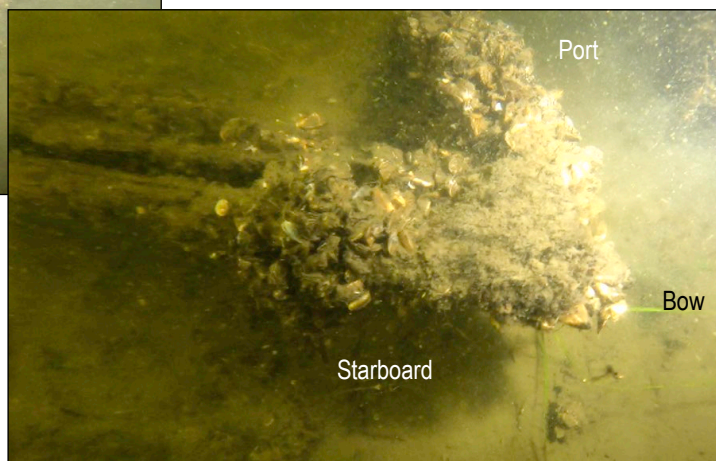
Wooden Outboard Motor Boat Wreck, 21-WA-124 (Anomaly 11)

The Wooden Outboard Motor Boat Wreck is 11.40 feet long, 4.50 feet in the beam, and 3.80 feet at the transom. This carvel-built wreck (the hull is constructed with planks set edge to edge) is profusely covered in zebra mussels, but key construction attributes are visible that allows for certain questions to be answered about her nature and design. Her sharply pointed bow has a small triangular deck. Her gunwale is intact throughout the hull, with remnants of a rubrail on the amidships starboard side. Two thick rectangular frames can be discerned on the port side forward. A bench support is located amidships on the port side, but the bench is either missing or displaced and buried in silt. The rear bench survives, detached from the inner hull, lying in the silt. Her transom stern has sharp corners and vertical sides; a hole on the port side stern marks the location of a missing metal lifting handle. The starboard side lifting handle survives. A rectangular frame-like brace strengthens the inner hull at the starboard quarter. A similar brace may survive on the port side, but thick zebra mussels obscure that section of the port quarter. Two horizontal, nearly triangular knees, provided additional strength at gunwale level on both the port and starboard quarters. A trapezoidal motor board is attached to the inner transom and the hull is flat-bottomed with a hard chine. Blue paint on white paint or primer survives intermittently around the outer hull. MHM contends the watercraft was constructed around 1930 and a sinking date of 1945 is reasonable; a lifespan of 15 years for a small wooden boat was common. MHM suggests a possible reason for her scuttling was the port side transom damage that occurred when the handle broke off the stern. MHM submitted an archaeological site form for the Wooden Outboard Motor Boat Wreck to the OSA, and received site number 21-WA-124.





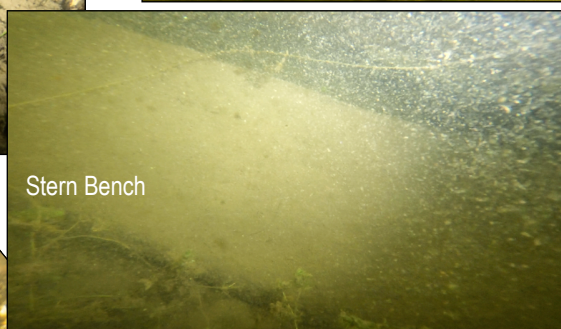
Bow



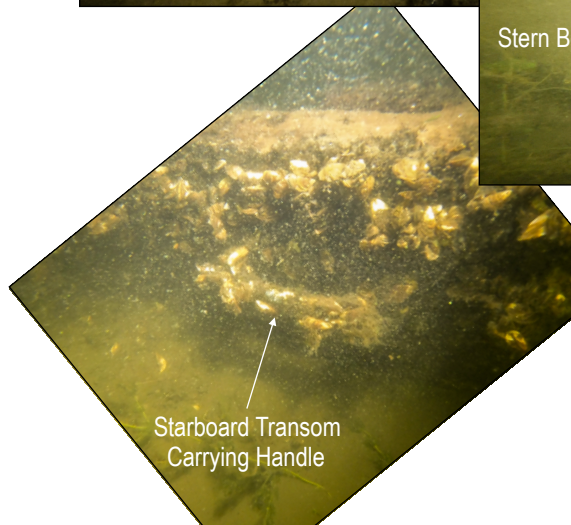
Amidships Starboard Gunwale and Rubrail



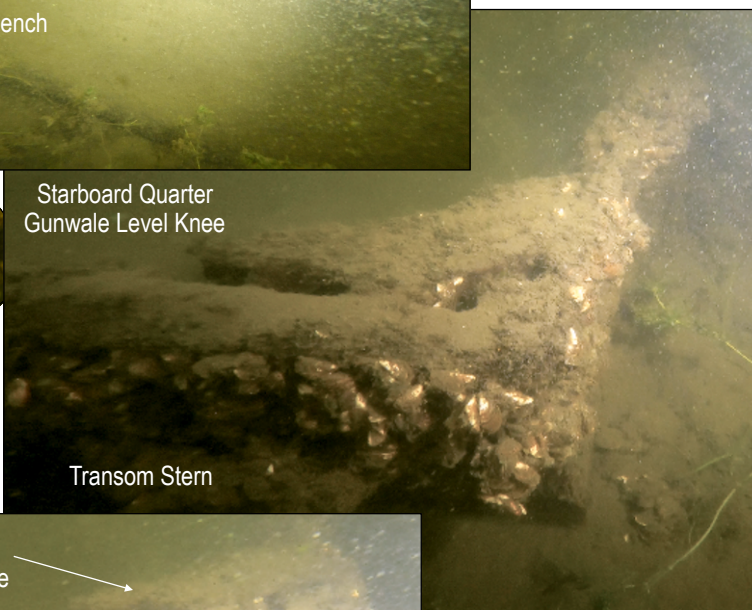
Outside
Hull



Stern Bench

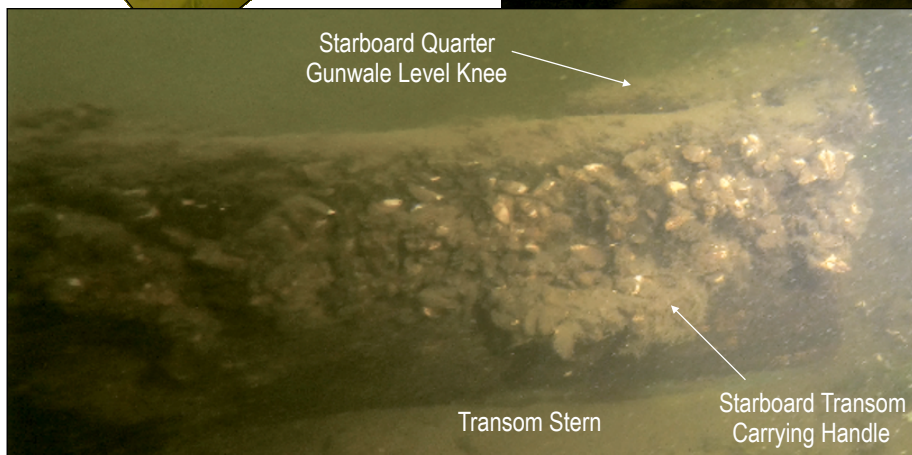


Starboard Transom
Carrying Handle



Starboard Quarter
Gunwale Level Knee

Transom Stern



Starboard Quarter
Gunwale Level Knee

Transom Stern

Starboard Transom
Carrying Handle



Starboard Transom

Starboard Quarter

Starboard Quarter
Inner Hull Support
Frame



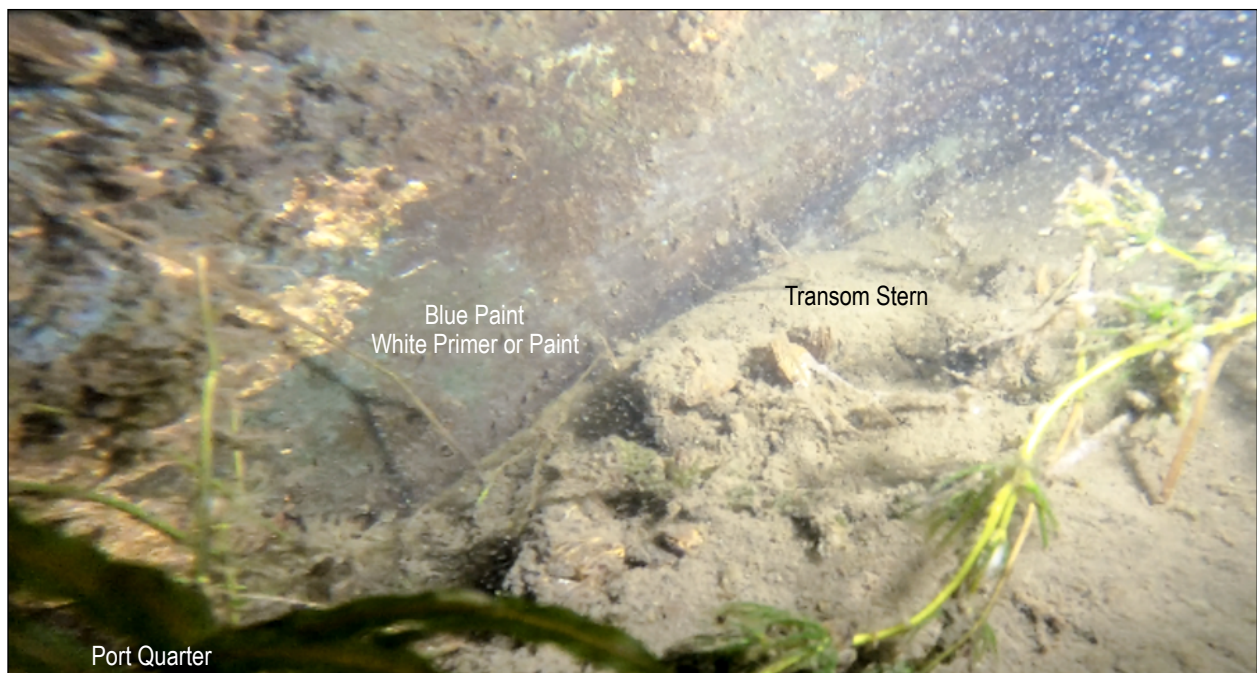
Inside of Hull



Inner Hull Motor Board



Port Quarter Inner Hull



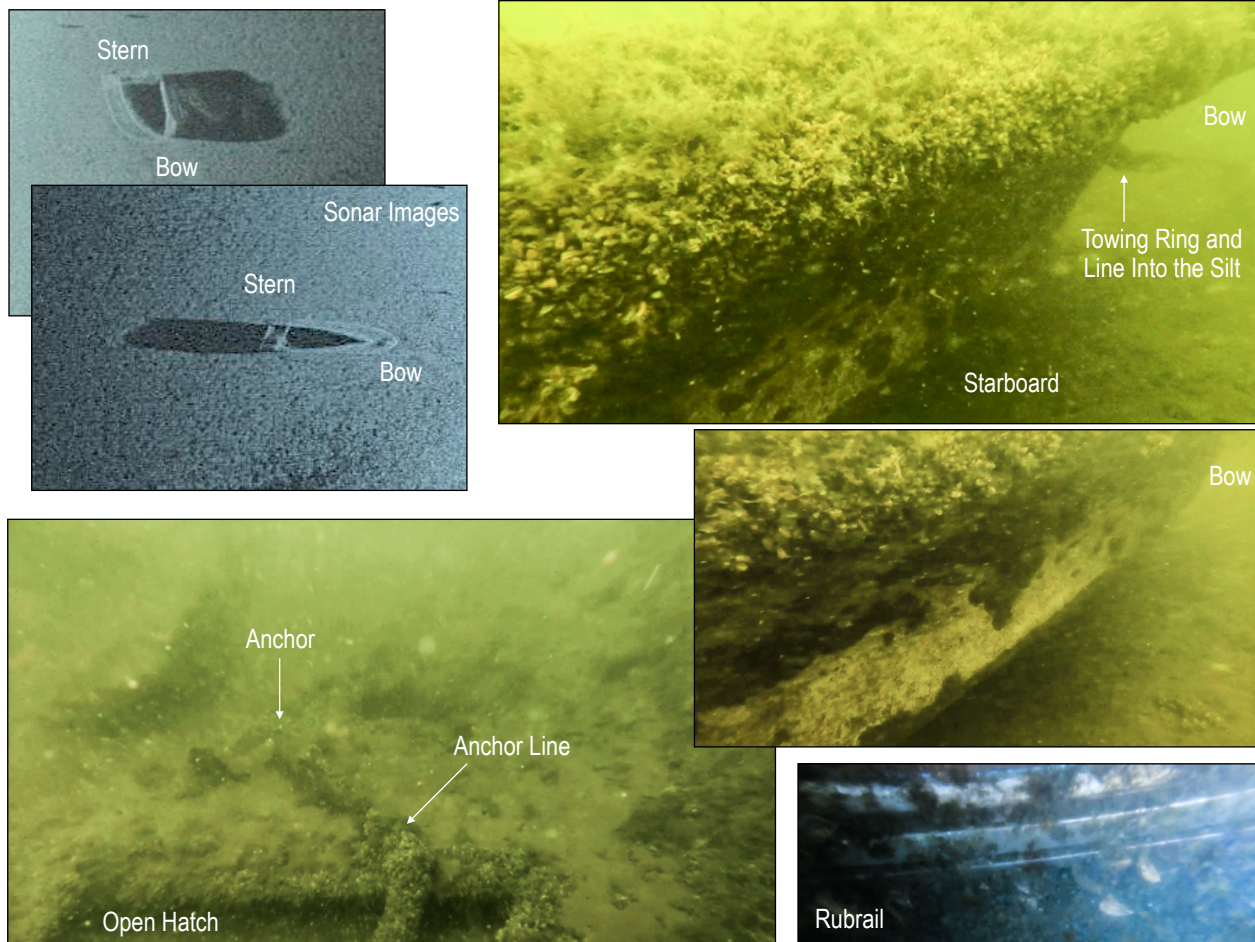
Blue Paint
White Primer or Paint

Transom Stern

Port Quarter

Fiberglass Deckboat Wreck (Anomaly 1)

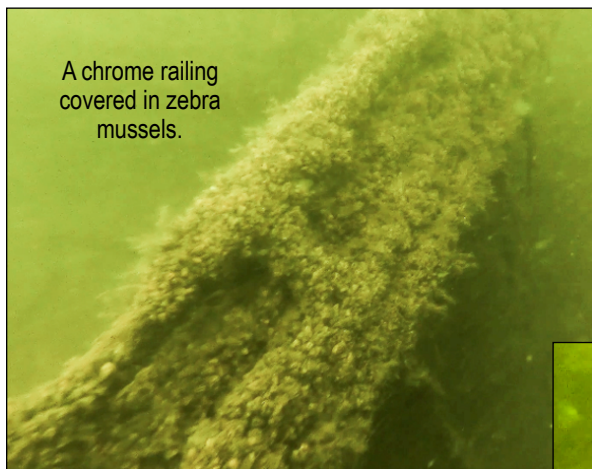
The Fiberglass Deckboat Wreck is 16.00 feet long and 6.70 feet in the beam. The 'top' of the wreck - the deck and wide gunwales - is red and the hull is white. The wreck's sides flare outward, resembling 'wings', that serve as splashrails, an important attribute seen in Anomaly 1 because the watercraft has low freeboard. A small rubrail marks the connection between the top and the hull; it is comprised of metal and rubber. The bow is bluff and broad with a small deck. Just aft of the bow, a hatch that is open to the bilge - possibly cut out of a piece of marine plywood, or it may be formed out of the fiberglass. A profuse amount of zebra mussels obscures some details. A chain is coming out of the hatch and a small anchor is attached to it, lying on that lower deck. A large metal railing evident around attached to the gunwale amidships to the quarters. The transom stern has a cut-out section along the midline to accommodate an outboard motor. Next to the starboard quarter, the lower unit of a sizable outboard motor is lying in the silt. A towing line is attached to the bow towing ring and pulled taut as it disappears into the silt. The wreck does not have a registration number that survives; MHM contends the watercraft had a number because she was likely built after 1959, the year registration numbers were required. MHM suggests Anomaly 1 was scuttled, particularly because of the missing outboard motor powerhead, the steering wheel, and the towing line evidence. It suggests that another vessel towed the Fiberglass Deckboat Wreck into the lake and dropped the line. There is not enough evidence available at this time for MHM to obtain a Minnesota Archaeological Site Number for the wreck, but the possibility exists in the future.



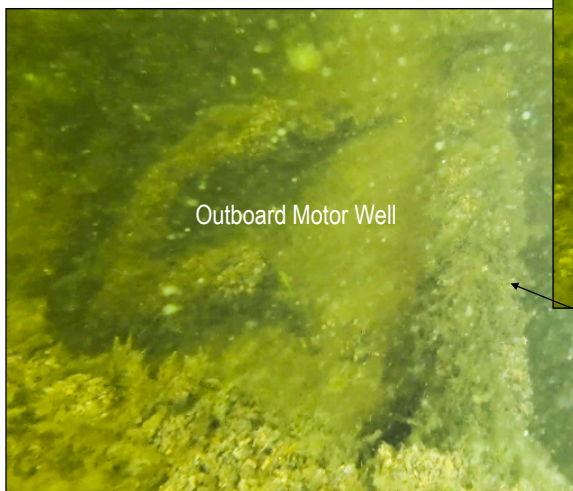
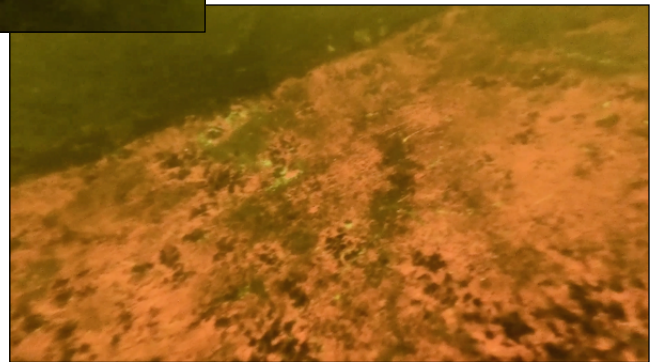


The front part of the small red deck; the rubrail junction of the 'top' and the 'bottom' of the wreck is under the zebra mussels.

The broad gunwale of the wreck.



A chrome railing covered in zebra mussels.



Outboard Motor Well



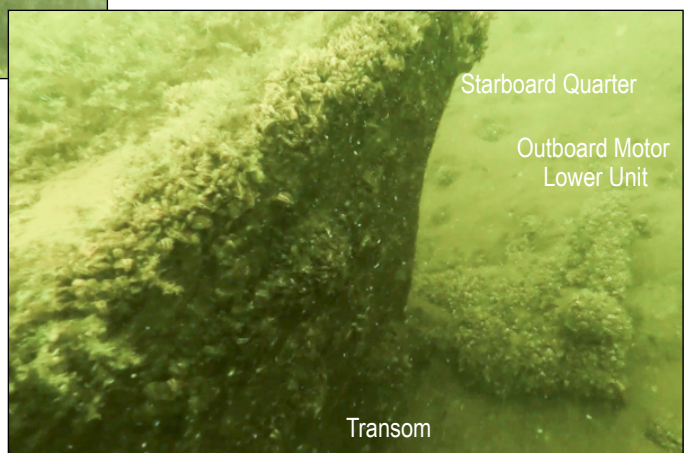
Stern

Port Quarter

Transom Stern Outboard Motor Cut



Starboard Quarter



Starboard Quarter

Outboard Motor Lower Unit

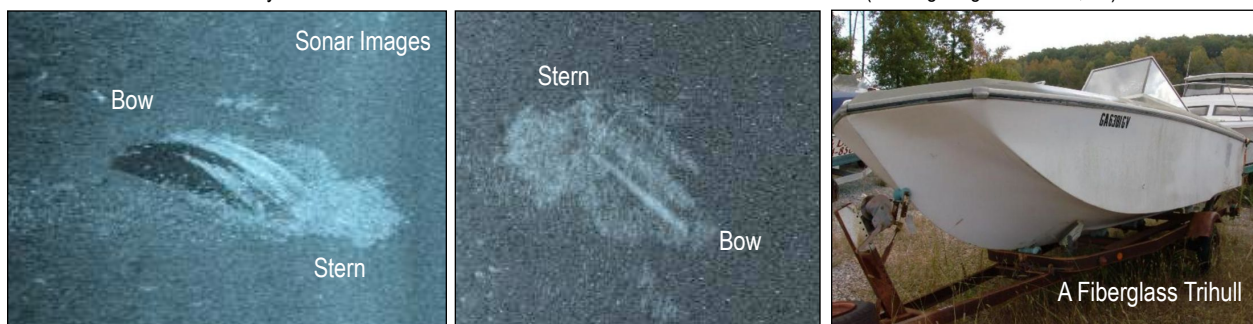
Transom

Capsized Winner International Trihull Fiberglass Wreck (Anomaly 13)

The Capsized Winner International Trihull Fiberglass Wreck is 16.30 feet long and 6.50 feet in the beam. Due to the nature of the site, certain attributes cannot be discerned in order to determine the wreck's model. The vessel's registration number survives on both the port and starboard bow: MN 3114 DM. This number was assigned to a "1972 Inte" boat whose last registration validation expired in December 1980 (Personal Communication, Kong Moua, MN DNR, November 2020). 'Inte' is the International Boat and Yacht Builders, Inc., of Hialeah, FL, "a wholly-owned, independent subsidiary of Winner boats, Inc." of Dickson, TN, as of June 1969 (*Fort Lauderdale News* 1969). Interestingly, on the starboard side, the '4' decal has loosened and a '7' can be seen underneath. Therefore, the boat was either registered in a different state and acquired a new number after being transferred to Minnesota, or the boat's original Minnesota number was allowed to expire for a number of years and a new number was required upon re-registration. When Anomaly 13 headed to the lake bottom, she landed on her windshield, and her aft quarter gunwales became buried in the silt. Part of the lower unit is visible, but the transom is mostly buried. Because the windshield is supporting the forward section of the wreck, the open bow is accessible and can be seen with bright lights, above the lake bottom. The wreck is a bow rider with light blue cushions in place; another blue cushion has fallen loose from the aft section and can be seen partially exposed at the port quarter. On the starboard side near the windshield, a long horn survives and is turned outward, exposing it completely. A waterski pull, comprised of a handle and polypro line, is floating loose outside the hull on the starboard side.

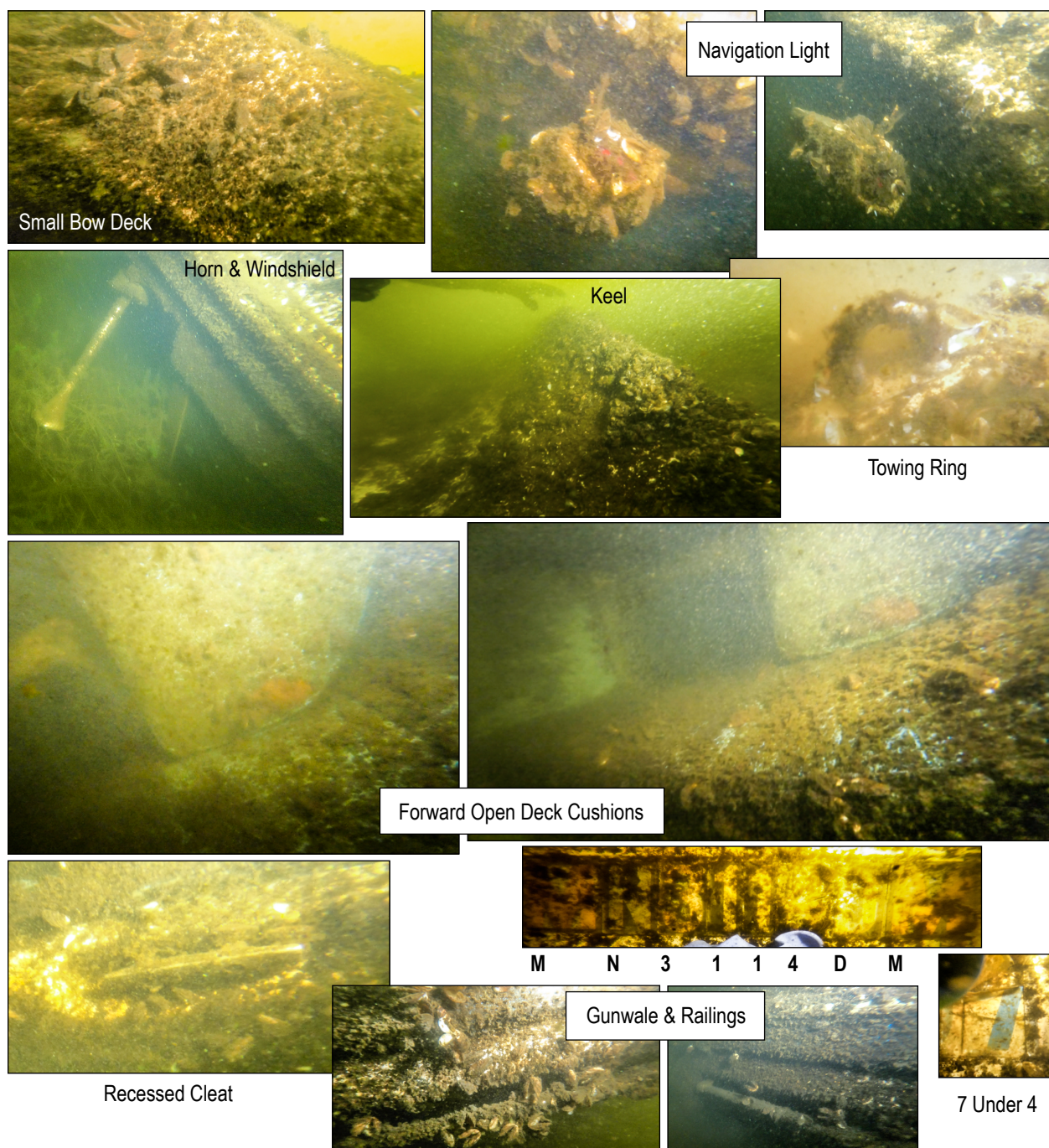


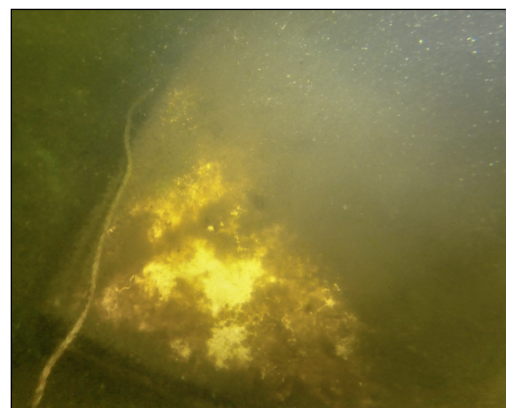
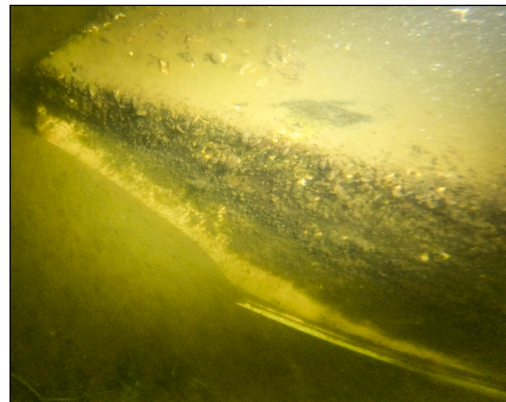
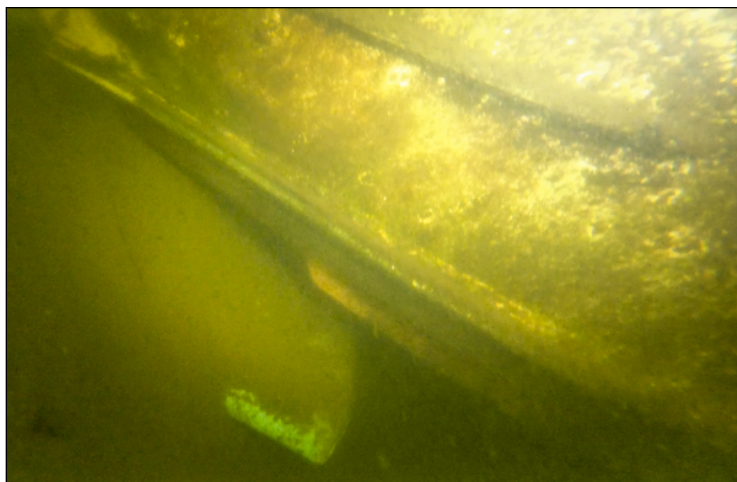
The wreck may be a 1972 Winner International Minikia or Bimini Inboard/Outboard (*Boating Magazine* 1972, 27).



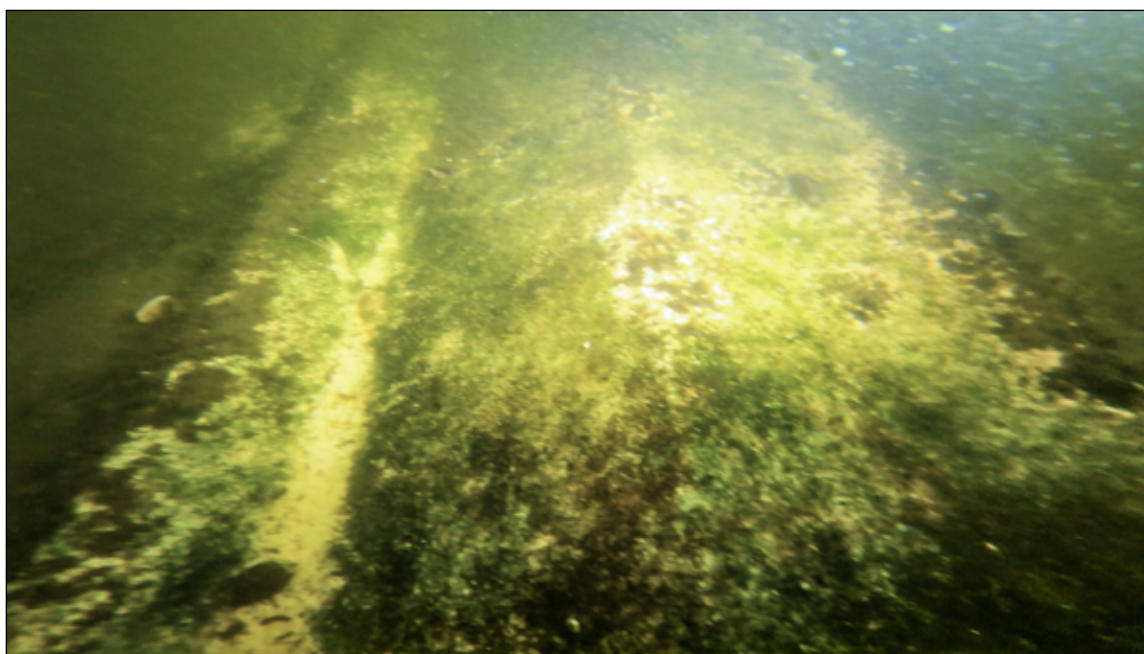
While the 'top' of the wreck cannot be seen in its entirety, certain attributes can be discerned. The bow has a small 'deck' with a sizable navigation light attached. The 'deck' merges with the wide gunwales that remain broad amidships and aft. The hull is white with blue and red details and rubber rub rails and splashrails. On both sides of the

bow, recessed areas are formed around metal cleats; from a functional perspective, the placement of these cleats in recesses limited the width of the lines and the number of turns that could be placed around it to secure the boat. Due to the nature of the site, the trihull bottom is entirely exposed; a towing loop is attached to the bow near the waterline. MHM contends Anomaly 13 sank accidentally; the presence of the attributes that can be seen suggest that fate, since a scuttled boat was usually stripped of useful objects like nav lights, cleats, seats, and outdrives. Due to the lack of damage to the hull's bottom, it is possible the boat was swamped during a storm or by large waves or wakes; Winner International Trihulls had low freeboard, so swamping is a reasonable explanation compared to a collision. Anomaly 13 is a protected maritime cultural resource.



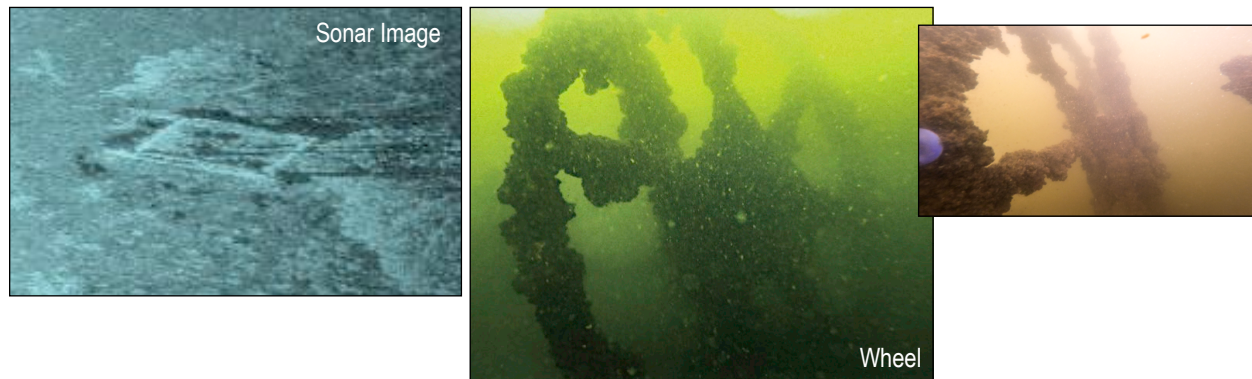


A blue cushion can be seen, loosened from the inside the hull, on the port quarter. The port quarter is partially exposed, as is the transom and outdrive. The waterski pull trails over the starboard quarter and the handle is in the water column amidships on starboard. The bottom's trihull design is clearly seen due to the capsized nature of the wreck.



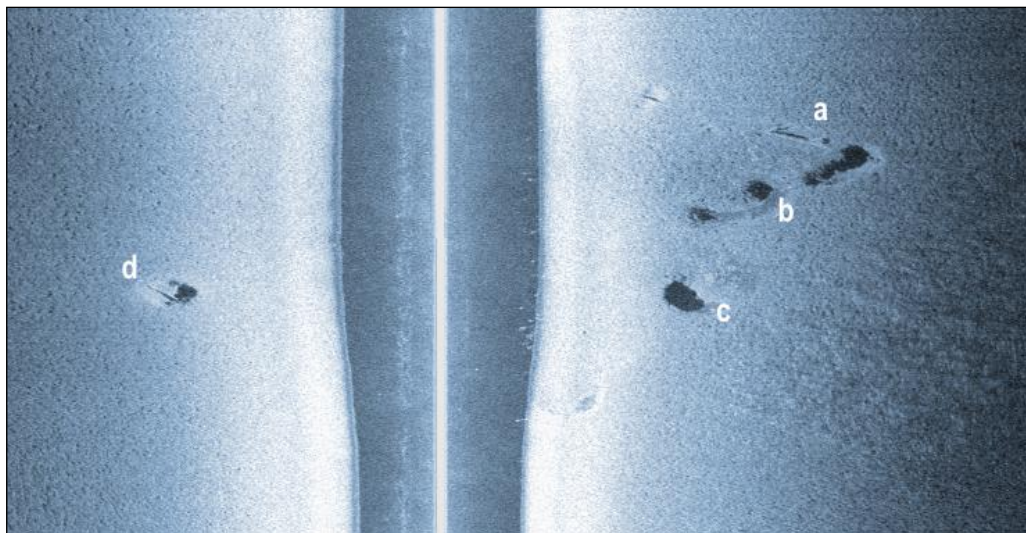
Boat Lift (Anomaly 15)

Initially, after the first sonar reviewal, MHM determined that Anomaly 15 was a pontoon boat wreck. Dive reconnaissance determined the target is a Boat Lift that measured 12.00 feet by 9.00 feet. The lift blew into the lake during a storm.



Trees and Divots (Anomaly 42a-d)

Anomaly 42a-d is a series of trees whose sonar signature suggested they might have been parts of a downed airplane.



Remaining Forest Lake Anomalies

High (1), Medium (2), Low (3)

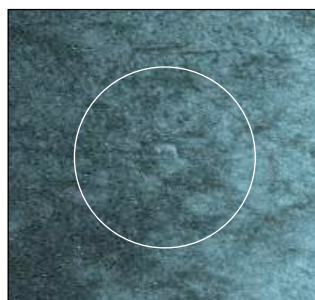




A28



A26

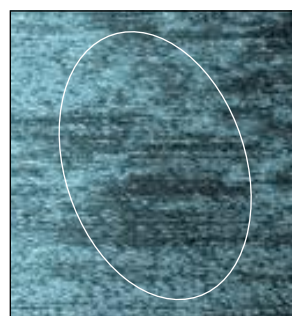


A35



A21

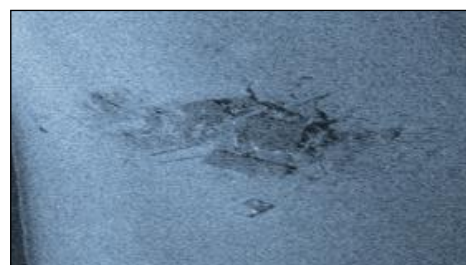
A31



A25



A27



A4



A2



A7



A38



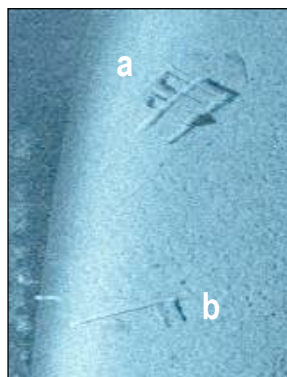


A49

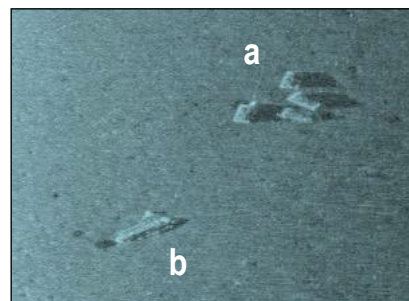
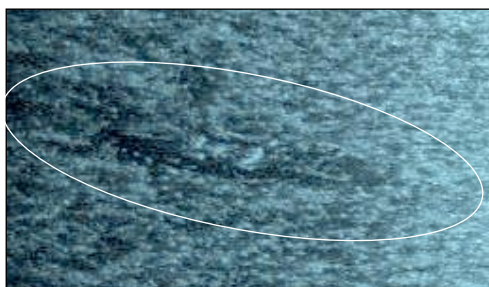


A48

A5a-b



A14



A47a-b

A22



A23



A20



A24



A30



A45



A34

A33



A36



A46





A37



A40



A41

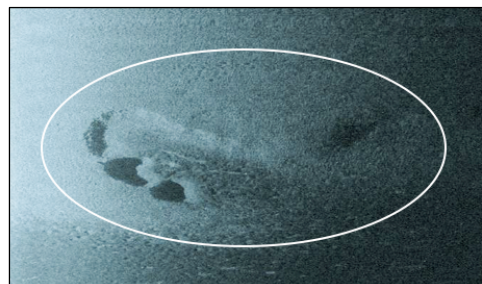


A43

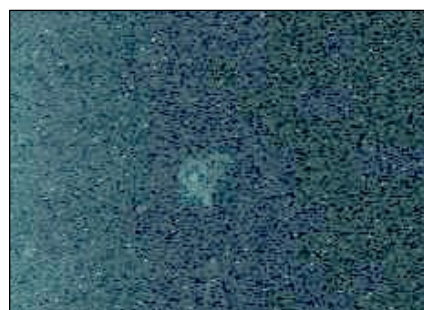


A17

A19



A18



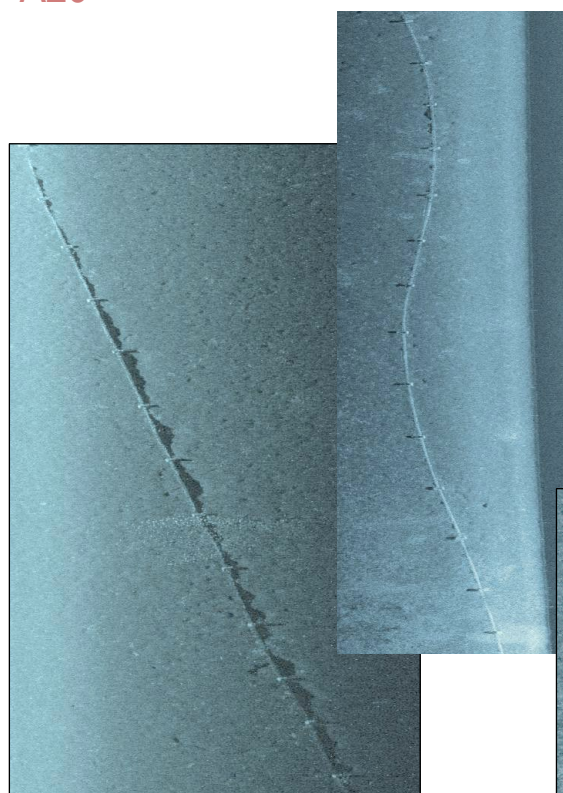
A29



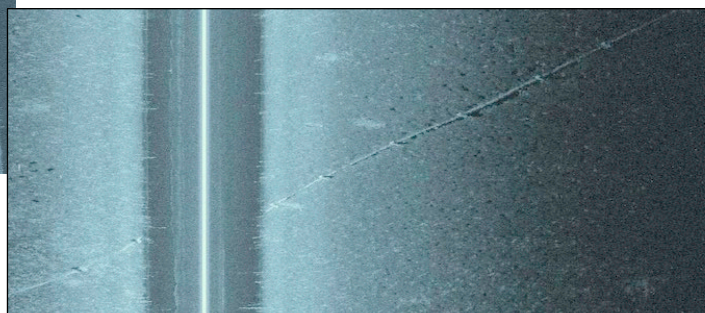
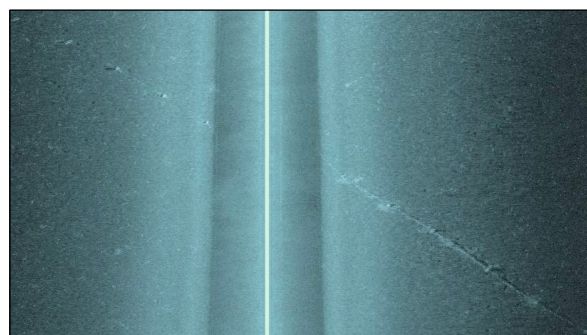
A32



A39



A8



Conclusion

During the Forest Lake Sonar Survey, MHM recorded several interesting and promising anomalies using remote sensing side and down-imaging sonar. Of the 49 anomalies recognized in the data after the initial review, A6, A16, A9, A11, A1, A13, and A15 have produced the greatest amount of archaeological data to date. In particular, the 6 wrecks (A6, A16, A9, A11, A1, A13) will greatly enhance our shared knowledge of Minnesota's Maritime History. The Flat Bottomed Outboard Motor Boat Wreck (21-WA-123 [A6]), the Steel Wineglass Stern Wreck (21-WA-122 [16]), the Wooden Homebuild Wreck (21-WA-125 [A9]), and the Wooden Outboard Motor Boat Wreck (21-WA-124 [A11]), while not a 'fleet', do represent the boating and fishing cultures associated with Minnesota lake resorts. The oldest wooden wreck in Forest Lake (21-WA-123) is a 'second generation' of small flat-bottomed watercraft that combined the flat bottom design, slat frame and slat strake construction, and an upright transom stern with no rake. The 'first generation' of Minnesota wide plank-built watercraft in the archaeological record are the Fisherman's Friend model of athwartships bottom hull-planked flat-bottomed vessels with few thick rectangular frames. Next in chronological order, 21-WA-122, is unique in the Minnesota underwater archaeological record. While many wooden wineglass stern wrecks have been located and documented by MHM, the Steel Wineglass Stern Wreck is the first of this type constructed of metal identified in Minnesota. Four other wrecks of wineglass stern design have been identified by MHM on the bottom of Lake Minnetonka, while 6 wrecks of that design have been documented in Christmas Lake.¹ Wineglass stern watercraft represent the most numerous small recreational watercraft used in Minnesota from around 1890 to about 1925-1930. The advantages of using wineglass stern boats at resorts and hotels lies in their attractive - and elegant - design combined with their functionality as small, maneuverable boats. These watercraft served well as fishing boats for casual and serious anglers, as well as nice rowboats for quiet trips on the lake for families or couples.

The Wooden Homebuild Wreck (21-WA-125) shares the rough-hewn stempost attribute with another wreck in Prior Lake (21-SC-116). A rare and interesting characteristic, this type of stempost would be strong and stable, but still a hand-hewn feature that an amateur boatbuilder could manufacture. In underwater archaeological and maritime historical terms, the presence of the rough-hewn stempost is a signature in Minnesota watercraft construction that can be assigned to homebuilders. Further, to MHM's knowledge, these 2 wrecks in Forest Lake and Prior Lake are the only known watercraft in the State that have survived that exhibit this trait. Similarly, 1 watercraft constructed by Civil War casualty Charles Ichabod Clark in the Minnesota Historical Society collection has frames comprised of twisted branches, another singular survivor in Minnesota.² The Wooden Outboard Motor Boat Wreck (21-WA-124) is a typical example of a small watercraft used by resorts throughout Minnesota beginning in the 1930s. This design and type of boat were used for fishing and pleasure boating as well, although the simple construction that utilized sparse rectangular frames suggests the watercraft had more of a utilitarian nature. The 2 fiberglass wrecks on the bottom of Forest Lake, Anomalies A1 and A13, are interesting submerged cultural resources and are potential

¹Lake Minnetonka: 21-HE-415, 21-HE-422, 21-HE-517; Christmas Lake 21-HE-535, 21-HE-537, 21-HE-538, 21-HE-539, 21-HE-540, 21-HE-541

²See MHM's *Minnesota Historic Fishing Boats Analysis and 3D Scanning Project Report* 2019.

future underwater archaeological sites. With more research, the stories behind the sinking of these watercraft may be located to further complete the background histories of these wrecks. Lastly, in terms of identified anomalies, the Boat Lift (Anomaly 15) is a typical boat lift found on the bottom of nearly every lake MHM has conducted research in to date, and A42a-d is a series of trees and divots.

In consideration of un-investigated anomalies, MHM is aware of the identities of several targets because of the clarity of their acoustical signatures and information supplied by a volunteer with knowledge of A3, A2, and A4. Anomaly 3 is a smashed fish house and A2 and A4 are vehicles; their exact model type is unknown at this time. Other distinct anomalies that MHM has studied in the sonar footage - complete unknowns in terms of identification - are a boat lift canopy frame (A38) and a probable trailer (A7). Of the anomalies that are probable wrecks, the clarity of certain targets will assist MHM in prioritizing future research and dive planning. Anomaly 44 resembles a small open boat, possibly a square-stern canoe; the sharpness of this target's acoustical signature makes it a high priority in future investigations. Anomaly 12 appears to be a capsized wreck - with a significant acoustical shadow - with a protrusion through or near its keel, maybe a drop keel or centerboard. Contrastingly, A10 is a 'boat-shaped' outline on the lake bottom with no acoustical shadow, indicating that if the target is a wreck, it is mostly buried. Other possible wrecks that are partially buried or obscured by vegetation include A21, A24, A25, A28, A34, A35, and A40; only dive reconnaissance will answer the question as to the nature of these anomalies. Additional possible wrecks include A14, A30 (capsized), A44, and A46, while 4 anomalies located in weedy areas may be wrecks as determined by their shape: A22, A23, A26, and A31. Another 4 targets are somewhat 'boat shaped', but they are more likely bottom contours: A27, A36, A37, and A41.

MHM is aware of 1 site on the bottom or - mostly likely - below the bottom of the lake: a F-51 Mustang. On June 27, 1954, World War II Army Air Corp veteran and Commander of the 97th Squadron of the 440th Fighter-Bomber Wing out of Wold-Chamberlain Field³ Major Louis M. Walton, crashed his plane into Forest Lake during training exercises. From witness accounts, the F-51 was seen smoking and took a nose dive into Third Forest Lake, 'exploding' on impact. Forest Lake police officer James Stokes dove the site in order to retrieve Walton's body; he reported that "the plane was sinking out of sight in the mucky bottom of the lake, 20 feet deep where the ship crashed. The cockpit was empty and Stokes saw no sign of Walton's body". Further investigations by US Air Force Engineers located part of Major Walton's left leg and 5.00 feet of lower intestines associated with the plane wreck in 15.00 feet of water and 8.00 feet of mud (*Minneapolis Morning Tribune* 1954; *St. Cloud Times* 1954; United States Air Force Reserve 1954, 2, 8-9). In future fieldwork, if MHM identifies any section of Walton's plane, a thorough recounting of the historical record will be produced. Lastly, the remaining 14 anomalies appear to be a collection of maritime targets, possible vehicles or snowmobiles, and many unknowns.

MHM has recognized 116 anomalies on the bottom of the 4 lakes documented during this MSLS Project: Forest Lake, Crystal Lake, Lotus Lake, and Lake Minnewashta.

³Wold-Chamberlain field is more commonly known as the Minneapolis-St. Paul International Airport; officially, Wold-Chamberlain remains part of the airport's name.

Particularly important is the identification of 16 wrecks through their distinctive sonar signatures, another 26 possible wrecks, 19 probable wrecks, 2 boat lifts, canopies, fish houses, vehicles, and other maritime sites. Further, the underwater archaeological reconnaissance of Forest Lake confirmed the identifies of 6 wrecks and 1 boat lift. The exact nature of the remaining wrecks and other sites will be determined during subsequent projects centered on their investigation by using SCUBA. These future studies will greatly enhance our shared maritime history through the recognition of submerged cultural resources and the stories behind their construction and disposition on the bottom of these particular 4 Minnesota lakes. The diversity of nautical, maritime, and underwater sites so far identified by MHM in Minnesota's lakes are tangible examples of the rich maritime history of the area. Through research, diving on wrecks and anomalies to collect pertinent data, and ensuring that the collected information is accessible by the public, MHM will continue to investigate Minnesota's submerged cultural resources into the future. The results of the MSLS Project summarized above is connected to all the work that will come after its completion. It is clear – through this Phase 1 remote sensing survey – that the types of sites that exist in the 4 smaller lakes documented during the project are diverse, archaeologically and historically significant, and worthy of great attention. Lastly, the significant data produced during this Forest Lake project has and will be used for comparison purposes as MHM identifies wrecks and maritime resources on the bottom of other Minnesota lakes. To date, these bodies of water include Christmas Lake, Prior Lake, Lake Johanna, Medicine Lake, Lake Pulaski, White Bear Lake, Lake Waconia, and Lake Minnetonka.

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